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AN EVALUATION OF THE TUITION FREE PRINCIPLE IN CALIFORNIA PUBLIC HIGHER EDUCATION.

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CALIFORNIA STATE COORD. COUNCIL FOR HIGHER EDUC.

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THE FREE TUITION POLICY OF UNIVERSITIES AND STATE COLLEGES IN CALIFORNIA HAS BEEN QUESTIONED IN RECENT YEARS, AND BILLS HAVE BEEN INTRODUCED FOR A DEFERRED TUITION PROGRAM. THIS REPORT EVALUATES THE CONCEPT OF FREE TUITION IN TERMS OF FINANCIAL ACCESSIBILITY AND MOTIVATION, AND ECONOMIC BENEFIT FROM INCREASED INDIVIDUAL EARNING POWER. QUESTIONNAIRE DATA FROM 6,200 PUBLIC AND PRIVATE COLLEGE STUDENTS WERE COMBINED WITH ADDITIONAL FINANCIAL RESEARCH. THE IMPACT OF TUITION ON ENROLLMENT, INSTITUTIONAL INCOME, SOCIAL COMPOSITION, AND PRIVATE SCHOOLS IS CONSIDERED. STUDY OF ALTERNATIVE POLICIES AND PROCEDURES CONCLUDES WITH THE FOLLOWING SUMMARY--ACCESSIBILITY OF HIGHER EDUCATION AND INCREASED TRAINED MANPOWER HAVE NOT BEEN FULLY ACHIEVED BY TUITION-FREE EDUCATION, FINANCIAL NEED CONTRIBUTES TO CALIFORNIA'S LACK OF SUCCESS IN INDUCING HIGH SCHOOL GRADUATES TO ACHIEVE DEGREES, ALTERNATIVES MIGHT BE TO CONTINUE TUITION-FREE POLICY FOR THE JUNIOR COLLEGE, WHILE INSTITUTING TUITION FOR THE TWO 4-YEAR SEGMENTS WITH EXEMPTIONS FOR NEEDY PERSONS, THE PRESENT STATE SCHOLARSHIP PROGRAM SHOULD BE AUGMENTED BY A DEFERRED TUITION REPAYMENT PROGRAM BASED ON FUTURE EARNING CAPACITY WITH A MASSIVE STATE LOAN PROGRAM, CONTINUATION OF FREE TUITION WAS CONSIDERED WITH SIMILAR MODIFICATIONS AND REVISION OF TAX STRUCTURE. TUITION RATES AND REVENUE USES ARE SUGGESTED. APPENDIXES PRESENT DOCUMENTATION OF ARGUMENTS. (DE)

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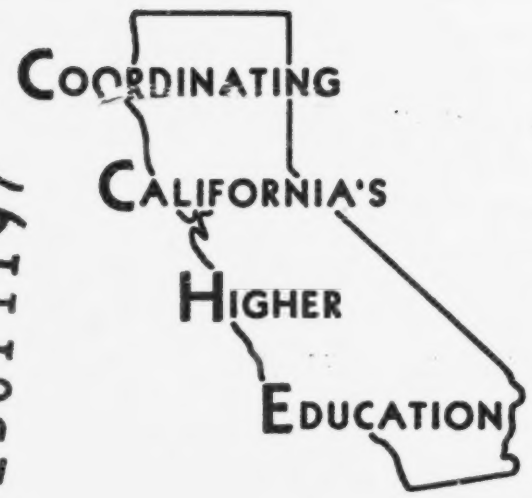

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AN EVALUATION OF THE TUITION FREE PRINCIPLE IN CALIFORNIA PUBLIC HIGHER EDUCATION

UNIVERSITY OF CALIF.
LOS ANGELES

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AN EVALUATION OF THE TUITION FREE PRINCIPLE IN CALIFORNIA PUBLIC HIGHER EDUCATION

A REPORT OF THE COORDINATING COUNCIL FOR HIGHER EDUCATION

Sacramento and San Francisco

May 1965

STATE OF CALIFORNIA — EDMUND G. BROWN, Governor

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The following report has been considered by the Council's Standing Committee on Finance at its meeting of March 5, 1965. At that time the Committee determined that it would make no recommendation to the Council relative to possible tuition fees for public higher education in California, but that rather the staff report should be referred to the Council as a whole for consideration at such time as the Regents of the University of California and the Trustees of the California State Colleges have completed their individual studies of the matter.

In view of general interest in the subject, the staff report has been prepared for general distribution in advance of the time when the Council may make its recommendations. Consequently, the following material presents staff findings only, and does not include at this stage any recommendations based upon those findings.

Willard B. Spalding
Director

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INTRODUCTION

Among the provisions of the Master Plan for Higher Education approved by the Regents of the University of California and the State Board of Education was the statement that:

> The two governing boards reaffirm the long established principle that state colleges and the University of California shall be tuition free to all residents of the state.[1]

In the five years since this statement's approval, the concept of a free tuition policy has been questioned on several occasions. During the 1963 and 1964 legislative sessions, for example, bills were introduced to establish a deferred tuition program in both four-year segments of public higher education. While these measures did not see action by either house of the Legislature, their introduction is indicative of considerable serious interest in the possibility of instituting fees to cover the costs of instruction in California public higher education institutions. (In 1965 similar legislation was proposed and referred to the Assembly Committee on Education for interim study showing continuance of this interest—see Appendix K for text of this measure.)

In view of this general interest, this report has been prepared to examine all aspects of the question so that the subject may receive the fullest possible consideration. This report seeks to evaluate the concept of tuition and the value of a policy for its institution in terms of certain major questions: For example, has the policy of tuition free education in California made higher education financially accessible to all who are academically qualified? Has the tuition free policy sufficiently motivated young people to accept the opportunity of a college education? What alternatives are there to a tuition free policy to make higher education financially accessible to qualified college-age youth and to motivate them to attend institutions of higher education? Also, we may ask to what extent is the student or his family able to finance a larger part of his educational cost and to what extent should he pay in terms of the projected increase in his earning power stemming from his college education? Finally, to what extent does the society and the economy in particular profit from the investment in educating young people through the resultant effect upon economic growth and through additional tax payments made by the college graduate throughout his lifetime?

A variety of sources have been examined to develop this report. In particular, emphasis is placed on data accumulated from a questionnaire completed by 6,200 students (or their families) enrolled in a broad sample of public and private institutions throughout the state. This information was secured as a part of a study for the State Scholarship Commission under the direction of Edward Sanders and Hans Palmer. In addition, the research in the economics of education of Theodore W. Schultz has proven valuable as have the analyses of Seymour E. Harris concerning projected higher education costs and sources of financing.

Attention is centered primarily upon economic and financial considerations. This should not be construed to indicate that social and cultural considerations are less important. There are two reasons for the emphasis given. First, the arguments of protuition advocates are couched primarily in terms of financial factors—rapidly growing costs of public higher education, limited tax resources, excessive tax burdens, and monetary advantages to the college graduate. Secondly, economic and financial aspects have proven the most susceptible to measurement and objective analysis. Consequently the report focuses attention on research findings concerning certain aspects of these economic and financial issues.

By way of further introduction it is useful to first review the historical development of today's policies and statutory provisions for the University of California, the California State Colleges, and the public Junior Colleges concerning tuition and other fees for both residents and non-residents.

University of California—Tuition Policies

On March 23, 1868, the Organic Act establishing the University of California was signed by the Governor. Among its provisions was:

> Sec. 14. For the time being, an admission fee and rates of tuition, such as the Board of Regents shall deem expedient, may be required of each pupil, except as herein otherwise provided; and as soon as the income of the University shall permit, admission and tuition shall be free to all residents of the state. . . .[2]

A major stimulus in preparation and passage of the Organic Act of 1868 was the prospect of qualifying for a federal land grant of 150,000 acres under

[1] *Master Plan for Higher Education, 1960–75,* (Sacramento: State Department of Education, 1960), p. 14.

[2] Chap. 244, Stat. of 1868, p. 254.

provisions of the Morrill Land-Grant Act of 1862. The free tuition principle relates in considerable part to the philosophy behind the Act—that of the need to provide for democratic accessibility to higher education opportunities and the education of needed manpower in the expanding national and state economies.[3]

Pursuant to the enabling clause in the Organic Act, tuition fees were assessed students upon the opening of the University in September 1869. However, three months later they were abolished by the Regents who later caused to be stated in the *Register of the University of California* of 1874: "Tuition in all departments of the University except the Medical College is absolutely free." In the 1890's, the financial condition of the University became such that the question of imposing a tuition fee on residents was re-opened. In 1895, a Regents' committee recommended a tuition fee of $25 per year which was rejected by the full board. Four years later the question again was considered; the Regents this time ordered temporarily a fee of $10 each semester. However, Governor Gage who had not been able to attend the meeting at which this action was taken sought to secure its reversal. Reconsideration gave victory to the Governor.

At the Constitutional Convention of 1879, the University was raised to the status of a constitutional agency of the State by the provisions of Section 9 of Article IX of the new California Constitution.[4] This section read in part:

> The University of California shall constitute a public trust, and its organization and government shall be perpetually continued in the form and character prescribed by the organic act creating the same . . .

Thus in effect the Organic Act (by then codified within the *Political Code* of 1872) and the free tuition principle were incorporated into the Constitution.

Further power was granted to the Regents in 1918 when Section 9 of Article IX of the Constitution was amended as follows:

> The University of California shall constitute a public trust, to be administered by the existing corporation known as 'The Regents of the University of California,' with full powers or organization and government, . . .

The deletion of reference to the Organic Act and the grant of full powers of organization and government to the University had the effect of doing away with any need for statutory provisions—the Regents now had the constitutional power to determine all matters with respect to admission fees and tuition.

Nonetheless, neither the Organic Act nor the language in the *Political Code* was expressly repealed by the Legislature at that time. On the contrary, the free tuition principle was carried forward from the *Political Code* to the new *Education Code* in 1943 in Sections 20001 and 20002 (renumbered in 1959 as 23051 and 23052). Thus as late as 1960 the *Education Code* provided as follows:

> Sec. 23051. An admission fee and rate of tuition fixed by the Board of Regents shall be required of each pupil, except as otherwise provided.
>
> Sec. 23052. When the income of the university permits, admission and tuition shall be free to all residents of the State . . .

In 1961, Assembly Bill 1672 was introduced to eliminate obsolete provisions of the *Education Code*. The University decided during the legislative session to recommend deletion of additional sections that had long appeared to be unconstitutional since the constitutional revision of 1918. Section 23052 was among those so recommended for deletion and was repealed by Chapter 626, Statutes of 1961.

Although the failure to repeal Section 23051 at the same time might on its face indicate a change in legislative intent with respect to the tuition free principle, the section was retained — notwithstanding University doubt as to its constitutionality as well — for a reason quite unrelated to the tuition free principle. According to the University, Section 23051 together with Sections 23054-7 are counterparts of the Standing Orders of the Regents dealing with student out-of-state residence classification matters. To quote Counsel Landon:

> In our opinion, the Regents' Standing Orders constitute the effective law in the area. But printed copies of the Standing Orders are not widely disseminated throughout the State and country, whereas copies of the California Education Code are available in law libraries across the land. In conferring with students, their parents and their legal advisors about residence classification matters, it is continually necessary for this office to refer them to the rule which govern that status. And these other provisions of the code make it far easier and more practical to accomplish that objective. I reiterate, it was for this latter reason that the Regents have not sought the repeal of all of the other provisions of Article 2 of Division 17 of Part IV of the Education Code.

In conclusion, the repeal of Section 23052 and the retention of Section 23051 are not interpreted as af-

[3] An excellent description of the development of the University of California may be found in William Ferrier, *Origin and Development of the University of California*, from which material presented in this section has been taken.

[4] The statutory history of the free tuition principle is summarized from correspondence to the Council staff from J. E. Landon, Office of the General Counsel, University of California, September 30 and October 2, 1964.

fecting the century-old principle of free tuition for University students, since legislative enactments in this field are subordinate to the powers granted to the Regents under the constitutional revision of 1918.

California State Colleges—Tuition Policies

The subject of tuition free education has received considerably less formal attention in the historical development of the California State Colleges than in that of the University of California. The Organic Act establishing the first State College as a State Normal School in 1862 in San Francisco, later transferred to San Jose, provided in Section 4:

> . . . that all persons applying for admission as pupils may be instructed in said school for such rates of tuition as the Board of Trustees may determine.[5]

Subsequently, this tuition concept was perpetuated in the *Political Code*. Among the powers provided the Board of Trustees of the State Normal School was that in Section 489:

> To control and expend all money appropriated for the support and maintenance of the school, and all money received for tuition or donations . . .

In 1933 the Legislature passed Chapter 819 amending Section 5.21 of the *School Code* to read:

> The total tuition fees charged any such student shall not exceed twenty-five dollars per year or twelve dollars and fifty cents per semester . . .

This section has gone through several renumberings and now is included within Section 23753 of the *Education Code*.

Although the statutory history of the tuition concept in the California State Colleges is clear, the history of the tuition fee itself is somewhat clouded. According to a report prepared by the Chancellor's Office in January 1964:

> Prior to 1933 the students were charged a $3 registration fee plus various course fees. The course fees were originally established to provide funds to meet specific costs in individual courses . . . Fees varied from $5 or more for a chemistry laboratory course down to 25c for a syllabus in another course . . . By 1940 the colleges were collecting as many as 100 to 125 such individual fees . . . In 1942, individual course fees were dropped and a Materials and Service Fee of $12 per year was adopted. During the period from 1933 to 1953 the Registration Fee had been eliminated and a Tuition Fee came into usage.
>
> By 1953 the Tuition Fee amounted to $13 per year and the Materials and Service Fee was set at $17 per year. These two fees amounted to $30 per year.
>
> In 1954, the Tuition Fee was dropped and the Materials and Service Fee was increased to $40 per year. The Director of Education identified the $40 Materials and Service Fee to include the original Tuition Fee of $13; Materials and Service Fee $22; Placement Fee $1; Evaluation Fee $2; and a Health Fee of $2 . . . .

Statutory authorization for a tuition fee has persisted throughout the first century of existence of the State Colleges. Presumably, the $3 registration fee and the individual course fees were conceived under this authorization. Moreover, a "tuition fee" did exist from 1933 through 1953. Although this fee was absorbed within the materials and service fee in 1954, statutory recognition of the tuition fee concept continues to exist in the *Education Code*.

Junior Colleges—Tuition Policies

The philosophy of tuition free education in the Junior Colleges has been firmly established. In large part resulting from the philosophy of free education applied to elementary and secondary education, fees for non-instructional costs are only now beginning to be applied in California public Junior Colleges for such limited purposes as health services and parking. It can be clearly said that to date little if any effort has been made to impose tuition fees[6] upon students who are California residents attending Junior Colleges.

Non-Resident Tuition and Non-Instructional Fee and Charges

Although residents of California have benefited from the absence of a tuition fee at the University and the Junior Colleges and the existence of a sometime nominal tuition fee at the State Colleges, out-of-state students have been subjected to a tuition fee for a number of years in the two, four-year segments of puplic higher education and recently in the Junior College segment.

The Junior Colleges were granted local option authority to charge out-of-state tuition in 1959 but subsequent legislation directed the Board of Education to place all on the same non-resident tuition basis; the rate for 1964–65 was $306 per year—for 1965–66, $309. Pursuant to a recommendation of the *Master Plan*, the other two segments have aligned their non-resident tuition fee with the cost of "teaching expense". For 1964–65, the University fee was set at $600 per year and the State College fee was set at $500 per year for out-of-state students and at $255 per year for foreign students. As a by-product

[5] Chap. 347, Stat. of 1862.

[6] Possible confusion may arise from the "out-of-district tuition" assessed to cover the cost of education of non-district resident students. Such payments are not assessed students, but are assessed the area of residence tax collecting authority.

of the California Public Higher Education Cost and Statistical Analysis, the cost of "teaching expense" has been recomputed for all three public segments and revisions in the non-resident tuition fee levels for 1965–66 for the two four-year segments have been recommended.[7]

Both resident and out-of-state students in the University and the State Colleges are assessed fees to cover operating costs of certain services incidental to, but not directly related to, instruction and are directly charged for their use of ancillary services of auxiliary enterprises. The level of fees and charges for these services has been the subject of recent Council study.[8] At that time, the Council reaffirmed and amplified Master Plan recommendations that students should assume greater responsibility for financing their education by paying fees sufficient to cover the operating costs of services not directly related to instruction and by paying charges sufficient to enable ancillary services and facilities to be fully self-liquidating. The current level of the incidental fee at the University is $220 per year; the materials and service fee at the State Colleges is $76 per year. Legislation at the 1964 General Session authorized the Junior Colleges to assess similar fees for the first time.

[7] CCHE, *Non-Resident Tuition Levels in California Public Higher Education*, (#65-5B), March 30, 1965, (mimeo).

[8] CCHE, *Financing of Additional Auxiliary Enterprise Facilities on State College and University Campuses*, (#64-9), September 24, 1963, (mimeo).

SECTION I

BENEFITS OF HIGHER EDUCATION

That education is of economic and cultural benefit to the individual is an axiom which on the surface few would doubt. However, estimates of the degree to which higher education produces these benefits remain controversial. Only recently have serious, scholarly attempts been made to define and distinguish the elements contributed to the society by education and to place in perspective the economic as well as the broad cultural values of formal education.

Drawing in large part from recent research, the following discusses the benefits of higher education to the student and the State from several aspects and viewpoints. The discussion is primarily in terms of the benefit to the student and of the benefit of the educated citizen to the society although it should be recognized that the higher education "industry" as an establishment also has a major influence upon the general progress and economic well-being of the nation and of California in particular.

BENEFITS TO THE STATE

Higher education may enhance organized society in four ways: politically, socially, culturally, and economically. Obviously these are interdependent rather than mutually exclusive categories. Nevertheless they may serve as general classifications for assessing specific influences of higher education.

The Polity

A democracy demands of its citizens an awareness of the problems that confront their society. Its political institutions are grounded in the belief that the electorate will be interested and intelligent enough to make reasonable and informed decisions on matters of general and pressing importance. California is perhaps more committed to this philosophy than are many states because of widespread use of the initiative and the referendum to determine public policy. Nearly every state election finds the electorate voting on a number of propositions which are decided by legislatures in many other states.

The phenomenal growth of California since 1945 has generated extremely complex problems, the solution for which ingenuity, intelligence, knowledge, and vision are demanded. To the extent that solutions are proposed through initiative or referendum, the progress of the state will be determined by the wisdom of its electorate. An increased percentage of college educated citizens can contribute to wise solutions to problems of growth as they vote and, in many instances, participate directly in the governance of the state.

Social Mobility

Throughout its history, this country has maintained the belief that the worth of an individual would result from his own efforts—that everyone had the right to try to better himself. The heroes of Horatio Alger's works symbolized the universal image of success and of social acceptance through personal efforts and hard work.

A society grows in strength and richness when men who aspire to reach new economic and social levels can find means of doing so. When social classes become rigid and social mobility disappears, society stagnates and becomes unproductive. Over the years, the characteristics of work have changed, placing more complex demands upon workers who desire to better themselves. Today, education is essential to upward mobility in positions in business and industry; and success at work is essential to upward movement in society.

Yet it is only a recent development that higher education has become the major vehicle to upward mobility. While a high school education is still an important determinant of social advancement in certain social and economic milieus, the complexity of modern industry has made high school education inadequate for professional and managerial positions. The premium jobs are now given to college graduates and class lines are now being based upon the possession or non-possession of a college diploma.

This situation makes the availability of a college education to all levels an important public policy issue if social mobility is to be encouraged. The civil rights movement, now focusing on an equal employment policy for semi-skilled and skilled labor, will soon be turning its attention towards higher education, and it is the responsibility of the society at this time to prepare for the coming surge of students from these minority groups. There can be great benefit to society in providing accessible and adequate higher education opportunities for all individuals to reach their full potential.

Cultural Advancement

Early American higher education, grounded as it was in the Puritan philosophy, could hardly be considered as a strong and active supporter of the arts. Higher education was rather a guardian of the status quo, a protector of cherished traditions, and a con-

tributor primarily to the professions. During the period of growth of the university, higher education was the training ground for American business, with greater emphasis placed upon conformity rather than upon individuality.

While elements of both the Puritan and pragmatic philosophies of education still exist, today's college institution places emphasis upon research, upon humane pursuits, and upon esthetic achievements. The convergence of all types of artists, writers, musicians, performers, and critics upon institutions of higher education provides opportunities for interchange of ideas and for consequent instructional enrichment of each fine art form. Higher education increases both the number of amateur and professional performing artists and the number of people who patronize them, while raising both groups to ever higher levels of artistic skill and esthetic sensitivity.

The Economy

In contrast to the three previously mentioned categories into which the benefits of higher education may be cast, the economic benefits of education are much more susceptible to measurement. A considerable body of literature has become available within the past five years presenting the research efforts and findings of economists. These research findings are of direct application to the subject at hand. In conducting a review of this literature, the intent has been to measure the economic benefits to society arising from the college-educated population so as to compare these with the financial gain accruing directly to college-educated persons by virtue of their education. Through this comparison, we can better approach the question as to how to most equitably distribute the costs of education between society and the student.

Capital Formation by Education. According to Professor Theodore W. Schultz:

> Although it is obvious that people acquire useful skills and knowledge, it is not obvious that these skills and knowledge are a form of capital, that it has grown in Western societies at a much faster rate than conventional (nonhuman) capital, and that its growth may well be the most distinctive feature of the economic system.[1]

Investment in schooling, of course, is the major source of human capital. As an investment in capital formation, moreover, education has a variety of features. For example, the educational establishment discovers and cultivates potential talent. It is thus closely analogous to resource development. It is well known that it pays to invest in oil exploration and in the improvement of extraction techniques. Fertilization and irrigation contribute to the economic value of land. Similarly, it "pays" to have a system that is organized to discover human talent and to develop it.

Another feature of schooling is that it increases the capability of people to adjust to changes in job opportunities associated with economic growth and decline. Thus human capital is uniquely mobile as compared with most physical capital. An obvious illustration is the large movement of people out of agriculture, made necessary because of the rapid rise in the productivity of labor in farming and because of the slower increase in the demand for farm products.

In recent years, economists have turned their attention to ways of measuring the stock of capital formed by education. They have found that there are some questions about the behavior of an economy where the concept of human capital is essential in gaining answers. Chief among these is the riddle of economic growth. The role of education in economic growth, however, requires first an appreciation of its growth as capital.

Technically, the most useful measure of the magnitude of human investment has been found to be the cost of production (or reproduction) of human capital—the same method followed in measuring physical capital goods. Although considerable literature has been developed on the techniques to be used—and the factors appropriate for inclusion or exclusion—in measuring the stock of educational capital, a computation by Schultz in 1961 still stands as a landmark in the field. (The major steps and elements of his computation are summarized in Appendix A.) Dr. Schultz found that the educational stock of the labor force increased in size from $63 billion in 1900 to $535 billion in 1957 in 1956 prices (see Table 6, Appendix A). In comparison, the stock of reproducible nonhuman wealth (producer capital) increased from $282 billion in 1900 to $1,270 billion in 1957 again in 1956 prices. From another perspective, the stock of reproducible tangible wealth increased between 1930 and 1957 by $25.5 billion per year, an annual growth rate of 2.01%. In contrast, the eduational capital in the labor force increased by $21.9 billion per year, an annual growth rate of 4.09%. The key to this dramatic growth is the increase in the amount and level of education of each member of the labor force as indicated in Table A.

TABLE A

Years of Schooling Completed per Member of the Labor Force

Type of Schooling	*1900*	*1957*	*Increase*
Elementary School	3.44	7.52	219%
High School	.56	2.44	439%
College and University	.15	.64	435%

Economic Growth. Economic growth is the increase in national product, measured in constant dollars. Heretofore, emphasis in the analysis of economic growth has involved the study of the conventional factors of production—land, labor and physical capital

[1] "Investment in Human Capital", *The American Economic Review*, March 1961, p. 1.

(structures, producer equipment and inventories). Yet growth in these factors has not been sufficient to explain economic growth. For example, the national income has been increasing at a much higher rate than the combined amount of land, man-hours worked and the stock of reproducible capital used in producing income. Also, the substantial increase in real earnings of workers has remained largely unexplained.

The best clues for further study have been the improvements in the *quality* of men and machines and in economies of scale. Currently, the contributions of university research to science and technology are being examined to discover the extent to which they are a source of economic growth. The effect of schooling upon the productivity of human effort is also believed to be a major source of economic growth. Both Edward F. Denison and Theodore Schultz have made estimates of the proportion of national economic growth that can be attributed to schooling.

Denison estimates that 21% of the economic growth of the United States between 1929 and 1957 is attributable to schooling.[2] Schultz' estimate of a year earlier supports Denison and is based upon the computation of educational capital formation summarized above. As shown in Appendix A, Table 7, the increase in educational capital of $286 billion between 1929 and 1956 that was created by the increase in amount and level of schooling per member of the labor force accounted for an increase in national income of at a minimum, $25.7 billion.

Two qualifications to these estimates deserve special mention at this point. First, the approach used allocates all of the costs of education to investment in capital and none to present or future consumption. From this standpoint, the rate of return is conservatively estimated, for once a part of the cost of schooling is charged to consumption, the financial gain increases as a percentage of investment cost. However, there is no way of estimating the proportion of benefits of schooling that should be distributed among (1) present consumption (present well-being; e.g., college life, cultural participation, etc.), (2) future consumption (e.g., enduring refinement of taste, intellectual reinforcement of moral values, etc.) and (3) producer capability (investment in skills and knowledge which enhance future earnings). In practice, much of the future consumption benefits of schooling are "captured" by others in that a person's schooling presumably improves the well-being of his neighbors, his employer and co-workers and are generally diffused in society.[3] Also, the three types of benefits appear to overlap considerably, with one possible set of exceptions. Schultz states that:

> In the United States presently, specific advanced schooling, that is, in law, agriculture, business, engineering, medicine, dentistry, nutrition, and technology, entails relatively little consumption and only a few of the benefits are captured by others. These classes are predominantly investments in productive capabilities that affect earnings and accrue to the persons who acquire the schooling.[4]

The second qualification involves the arithmetic of schooling and economic growth. Schooling is a source of economic growth only as its stock increases, as is true for capital generally. Once a country attains a high level of schooling, although it would undoubtedly require much schooling to maintain it and the annual investment would be large, schooling would obviously no longer be a source of economic growth. Moreover, as schooling increases, the composition of its growth assumes economic importance as illustrated by Table B constructed from computations of Schultz:

TABLE B

Future Capital Formation Prospects in Education

Type of Schooling	*Years of Schooling per Member of Labor Force in 1957*	*Cost of Adding Each Year of Schooling (1956 prices)*	*Rate of Return*
Elementary	7.52	$280	35%
High School	2.44	$1,420	10%
College	0.64	$3,300	11%

Although an elementary school education is the most economical and effective investment, little future economic growth arising from an increase in years of schooling per person is possible at this level. Education expansion at the high school and college levels offers considerable opportunity for growth yet at approximately the same rate of return for each.

To return to the historical comparisons by Denison, the contribution of schooling to growth between 1909 and 1929 was a little more than one half of that between 1929 and 1957. The projected 1960–80 growth from this source is a little less than that between 1929 and 1957.[5] Schultz believes that in the longer run it is impossible to maintain the rate of increase in the amount of schooling achieved during recent decades.[6] Between 1909 and 1929, material capital contributed to growth almost twice that of schooling, but between 1929 and 1957, the contribution of schooling exceeded that of material capital.

Supply and Demand for Human Capital. Richard S. Eckaus poses the question:

> Is our rate of investment in human capital adequate if we want to accelerate our rate of economic

[2] For details and assumptions, refer to Denison's *The Sources of Economic Growth in the United States and the Alternatives Before Us* (New York: Committee for Economic Development, 1962).

[3] Burton A. Weisbrod has focused economic analysis upon the contributions of education to consumption benefits, distinguishing between those to the student only and those captured by others in the community, in "Education and the Investment in Human Capital", *Journal of Political Economy* (supplement), October, 1962.

[4] *The Economic Value of Education* (New York: Columbia University Press, 1963), pp. 57–58.

[5] As inferred from Denison, *op. cit.*

[6] *The Economic Value of Education*, p. 45.

growth? . . . Is the present composition of this type of investment the optimal one? That is, is the system producing engineers, mathematicians, physical scientists, doctors, and teachers, of various types in the proportions that are most effective in aiding our economic growth?[7]

The central idea of social needs for educated and trained personnel harkens back to one of the purposes underlying the Morrill Land Grant Act and the founding of the University of California.

Without reviewing in detail the literature on the subject, the manpower needs of the future can be outlined. Reference is appropriate first to Appendix B of this report wherein employment trends of the past are presented for both California and the nation and the employment trend in the future is projected for the United States. Primary interest for purposes of this report is centered upon the classification of "Professional, Technical and Kindred" employees which is heavily dependent upon higher education attainments. As a proportion of total employment, this classification for the U.S. increased from 7.6% in 1950 to 11.2% in 1960 and is projected to increase further to 13.3% in 1970 and 14.2% in 1975. In comparison, California's proportions increased from 11.1% in 1950 to 14.5% in 1960. Although no projection of the future is available for California, the rapid industrial growth and technological developments in the state can be expected to cause at least as dramatic a change by 1975 as that projected for the nation. Perhaps the best way of explaining the effect of our state and national productivity advances upon our manpower trends is to say that they have placed us in the position of *affording* to have the majority group in our working population engaged in service-producing activities rather than in goods-producing sectors. A continuing demand for services carries with it corresponding demands for professional personnel.

To turn to more specific occupational areas, a study by the U.S. Bureau of Labor Statistics for the National Science Foundation projected the future needs for engineering and scientific personnel.[8] Its main elements were a forecast of total employment in various fields of the U.S. economy and a projection of the ratio of scientists and engineers to total employment. This ratio (the "density") is assumed to rise according to past trends with some adjustments made on the basis of other information. In the manufacturing industry, the density of scientists and engineers, for example, is projected to rise from 3.5% in 1959 to 5.3% in 1970.

[7] "Education and Economic Growth" in *Economics of Higher Education*, Selma J. Mushkin, ed. (U.S. Department of Health, Education and Welfare, Office of Education, 1962), p. 109.

[8] NSF 61–65, *Long Range Demand for Scientific and Technical Personnel, A Methodological Study*, 1961. Also, the Council has published reports covering projected future needs for professional personnel in selected occupational areas in California: (1) *Medical Education in California*, (#1001), January 1963; (2) *Dental Education and Manpower*, (#1015), December 1964; (3) *Faculty Recruitment in California Higher Education*, (#1017), March 1965.

Taking into account employment in the total civilian economy, including colleges and universities, the following main results were reached: to meet the projected *demand* for engineers during the sixties, 72,000 new engineering graduates, on the average, will have to be produced annually. This will increase the number from 783,000 in 1959 to 1,484,000 in 1970. On the other hand, if, as projected, the degrees awarded in all fields rise by 80% during the decade, and if the proportion that engineering graduates represent of all graduates remains constant, then the *supply* of graduates in engineering, as an annual average for the sixties, will reach 58,000, an annual shortage of 14,000.

The corresponding estimate for science graduates (313,000 in 1959 to 548,000 in 1970) does not indicate that any deficit would arise in the 1960's. However, evidence of increasing demand for science graduates *with advanced degrees*, indicates that there may be a considerable gap between supply and demand for such highly qualified personnel.

In commenting upon these projections, a report for the Organization for Economic Cooperation and Development pointed out how the engineer-deficit might be over-stated in two respects but that this may well be off-set by the reality that the share of engineering in total enrollment has tended to fall in recent years.[9] The O.E.C.D. report, however, suggested another approach to the problem of projecting manpower needs:

> It may be claimed that demand for people with higher education should not be derived from a predetermined estimate of the development of the economy. *On the contrary, it is the supply of such personnel that, in combination with other factors, determines the pace of economic growth. Educational targets, thus, should be regarded as one facet of general growth targets.* [emphasis added] This approach to the problem leads to the simple conclusion that *a maximum effort* should be made to expand education in the field of science and engineering. According to these considerations, the crucial issues in solving the supply/demand problem seem to be to *increase the proportion of undergraduate students who proceed to graduate and doctoral studies in science and engineering* (this proportion is now quite low) *to strike a balance between doctoral graduates who are retained in teaching and those who are "released" for employment outside colleges and universities.*[10]

BENEFITS TO STUDENTS

Financial Gain

It has been generally accepted that income and schooling go together. Today, persons who have not gone beyond elementary school are seldom qualified

[9] O.E.C.D., *Higher Education and the Demand for Scientific Manpower in the U.S.* (Paris, 1963), pp. 14–15.

[10] *Ibid.*, p. 15.

to hold any but the most menial jobs, and persons who aspire to professional or managerial work generally need at least four years of college education. Moreover, numerous studies have supported the education-income relationship. Herman P. Miller of the U.S. Bureau of the Census has produced one of the more recent comparisons of education and lifetime earnings based on 1960 census data as shown in Table C.

TABLE C

Education and Lifetime Earnings: Men (Earnings from age 18 to 64)

Highest grade completed	*Earnings*
All education groups	$229,000
Elementary School:	
Less than 8 years	143,000
8 years	184,000
High School:	
1 to 3 years	212,000
4 years	247,000
College:	
1 to 3 years	293,000
4 years	385,000
5 years or more	455,000

SOURCE: Based on 1960 census figures. U.S. Senate, 88th Congress, 1st Session, Hearings Before the Committee on Labor and Public Welfare on Bills Relating to Equal Employment Opportunities, July and August, 1963, p. 335

Estimates of lifetime income are derived figures based upon variations in the payments to individuals in different age and education groups. They are based on a cross section of the population and not on life cycle data which would trace a man's income from the time he starts to work until he retires.[11]

Average figures such as those reported in Table C conceal wide variations in income. The data shown in Appendix C, Table 1, indicate that many fail to profit financially from their higher education. For example, whereas 50% of male high school graduates had an annual income exceeding $6,000 in 1959, some 31% of all male college graduates had an annual income less than $6,000. Also, the income pattern for those with 1 to 3 years of college closely paralleled that of high school graduates. As would be expected, income for women is substantially below that of men regardless even of educational differences in favor of women. Where "everything else is equal", education seems to garner a differential in earning power for its possessor. Often, very little else is equal, however.

A study by Miller using 1950 census data revealed that education has less effect upon income for non-whites than for whites.[12] Table D indicates first that the lifetime income of white males is approximately double that of non-white males regardless of the level of education and, second, that income gains associated with schooling are much more striking for whites than non-whites.

[11] A further explanation of the technique used by Miller is found in his chapter, "Income and Education: Does Education Pay Off?" in *Economics of Higher Education*, Selma J. Mushkin, ed. (U.S. Department of Health, Education, and Welfare, Office of Education, 1962).

[12] *Ibid.*, p. 140.

TABLE D

Lifetime Income and Education for Men 18 to 64, by Color in 1949

Years of Schooling Completed	*White Earnings*	*Non-white Earnings*
Elementary School:		
Less than 8 years	$95,000	$54,000
8 years	119,000	71,000
High School:		
1 to 3 years	140,000	76,000
4 years	162,000	85,000
College:		
1 to 3 years	184,000	88,000
4 years or more	255,000	117,000

Again using 1960 census data, Miller has estimated the lifetime monetary value for various professions.[13] In Table E, earnings only are shown—not total income. This difference is important because many of the highly paid professional men, especially those who practice independently, have income from investments, real estate, and other sources.

TABLE E

Estimated Average Lifetime Earnings of Professional Men

Occupation	*Lifetime Earnings from age 18 to 64 Average*
Doctors	$717,000
Dentists	589,000
Lawyers	621,000
Engineers:	
Aeronautical	395,000
Electrical	372,000
Mechanical	360,000
Civil	335,000
Natural Scientists:	
Geologists	446,000
Physicists	415,000
Chemists	327,000
Biologists	310,000
Social Scientists:	
Economists	413,000
Psychologists	335,000
Statisticians	335,000
Teachers:	
Elementary School	232,000
High School	261,000
College	324,000
Accountants	313,000
Clergymen	175,000

(Based on 1960 census figures)

As far as recent historical trends are concerned, Miller has found that over a twenty-year period the demand for college graduates has kept pace with the supply insofar as this is reflected by earnings trend relationships.[14]

Still more recent data indicates that the spread between earnings of high school graduates and college graduates has increased sharply. James Morgan and Charles Lininger tabulated data from four *Surveys of Consumer Finances* extending between 1957 and 1962 and found that the average annual earnings of

[13] U.S. Senate, 88th Congress, 1st Session. Hearings Before the Committee on Labor and Public Welfare on Bills Relating to Equal Employment Opportunities, July and August, 1963, Table 1.

[14] "Annual and Lifetime Income in Relation to Education," *The American Economic Review*, Dec. 1960, p. 969.

TABLE F

Mean Income (or Earnings) by Level of School Completed, for Males 25 Years Old and Over, for the U.S.

Elementary-High School Differential

Average Income

Year	*Elem. School Graduates*	*High School Graduates*	*Difference*
1939	N/A	$1,661	N/A
1946	$2,327	2,939	26%
1949	2,829	3,784	34%
1956	3,732	5,439	46%
1958	3,769	5,567	48%

High School-College Differential

Average Income

Year	*High School Graduates*	*College Graduates*	*Difference*
1939	$1,661	$2,607	57%
1946	2,939	4,527	54%
1949	3,784	6,179	63%
1956	5,439	8,490	56%
1958	5,567	9,206	65%

college graduates 36–64 years of age (excluding farmers and self-employed since their return often includes a return to land or tangible capital) had increased to $11,070 in 1961–62 for a difference of 93% above that of high school graduates earnings of $5,740.[15]

In the material presented to this point, gross data has been used for the most part. Even where earnings have been shown rather than total income, no recognition has been given to the fact that education is only one of many factors that determine income. Both income and education may be related to more fundamental traits like ability, drive, and imagination, or to family status and prestige in the community. Even without a college education, superior intelligence, better home environment and greater social and economic opportunities can result in higher earnings.

In recent years, economists have turned their attention to the difficult empirical problem of isolating the effect of one variable (education level) upon another (lifetime income) from the effect of other income-related factors. In a study in 1963 financed by the Ford Foundation, James Morgan and Martin David undertook an involved statistical manipulation (multiple regression) of a sample of 3,000 heads of spending units for 1959.[16] Their first basic assumption was that a person's economic contribution to the economy is in his productivity and that this is best measured by his hourly earnings. Not only is income from property and investment thus eliminated but the use of hourly earnings in lieu of annual earnings also eliminates from the statistical manipulation the unwanted unemployment of the less educated and the desired extra leisure that can be afforded by those with more education. A multivariate analysis was used to isolate a variety of income-related factors in their effect on the earnings of each individual in the sample.

[15] "Education and Income", *The Quarterly Journal of Economics*, May 1964, pp. 346–7.

[16] "Education and Income", *The Quarterly Journal of Economics*, August 1963, pp. 423–37.

Reproduction of much of the tabular results of the study is shown in Appendix D. In reviewing the lifetime earnings results in Table 3, therein, it must be remembered that they cannot be compared with the gross census figures of Herman P. Miller shown earlier since earnings foregone for the period in school commencing at age 15 have been subtracted from lifetime earnings and have also been discounted as a form of investment. Also, the data is drawn from a specific sample of 3,000 individuals.

Morgan and David were quick to qualify their own analysis. First, they stated their belief that the multivariate analysis removes too much, and understates the effects of education. Also, they agree that their assumption that unemployment should be charged elsewhere than to low education is debatable. If this were properly blamed on a lack of sufficient education, their tabular results underestimate the value of education to society. However, they conclude that:

> Even though taking account of occupation, for instance overdoes the adjustments, and current earnings understate the differences that may exist in future years, education remains a powerful determinant of earnings. The effect of education on earnings, is not a fictitious result of spurious correlations involving other factors like parental influences.[17]

Social Mobility

The degree of dependence of an individual's prospects for social advancement upon formal education has previously been reviewed in terms of its benefit to the society. Further attention is warranted from the standpoint of the student.

The further young people go in the educational system, the better their chances for higher-class positions—especially in the case of youths from lower socio-economic levels. C. A. Anderson has reported on a study which shows that among sons of fathers in *white collar* jobs whose schooling was superior to that of their fathers, 38% got jobs above their fathers and 29% got lower jobs.[18] When the sons' schooling was inferior to that of their fathers, only 11% held superior positions and 68% had a poorer one.

Of the better-schooled sons of *manual* workers, 53% gained a position above their fathers and 14% got poorer jobs; if the son had less schooling, 23% had superior jobs and 18% had inferior jobs.

Consumer Values

Of all the features of human capital that distinguish it from physical capital, the most significant are the "non-economic" factors or motivations. In-

[17] *Ibid.*, p. 428.

[18] "A Skeptical Note on the Relation of Vertical Mobility to Education" *American Journal of Sociology*, Vol. 66, 1961, pp. 360–70. Anderson concluded that although schooling exerts influence upon mobility, other factors also are operative including general ability, the type of education (consumptive or productive) and motivational variability.

dividuals do not go to college merely as the result of a calculation of the rate of return achievable. A higher education is increasingly regarded as a prerequisite for the achievement of personal, non-economic goals by the individual and his guardians. Some of these major enduring consumer benefits of education include, (1) a social prestige that is independent of its economic significance, (2) the lifetime pursuit of cultural interests such as art, music or literature, (3) the acquisition of homemaking concepts and skills to provide a substantial basis for successful marriage and family life, and (4) generally, any liberal education that contributes to the quality of one's life.

Another category of non-economic benefits may not have been contemplated by the student at the time he entered upon and pursued his course of schooling. Burton A. Weisbrod has devised a system of classifying these benefits.[19] One such class termed "non-financial options" is so-called because the value of education is a function of the additional options which become available to a person having it. Examples include job options, income-leisure-security options, additional schooling options, on-the-job learning options, way of life options. Another class is termed "hedging options", so-called because education provides increased ability to adjust to changing job opportunities. Additional flexibility increases security. A final class of benefits is termed "non-market returns". Primarily, this is the pervasive value of literacy in every-day life. As a simple example, the ability to make out one's own tax return saves the expense of a tax consultant.

Summary

To approach an equitable distribution of the costs of education between society and the student, an effort to evaluate and measure the differential benefits to the student and to society seems necessary. The non-economic benefits to society of widespread opportunities for individuals to possess a higher education include: (1) an increasingly educated and informed electorate, (2) the increasing reliance upon education as the vehicle for upward social mobility, and (3) the raising of the cultural base of society through student training in artistic skills and esthetic sensitivity. Non-economic benefits to the student may be cited as: (1) additional opportunities for higher-class positions for youth from lower socio-economic levels and (2) so-called consumer values such as lifetime cultural interests, homemaking skills, social prestige, and additional way-of-life options and security. Although non-economic benefits are intangible and immeasurable, they are nevertheless real and of great value. Since they are immeasurable, however, their relevance to the tuition free principle is purely one of the philosophic orientation of the individual involved in the tuition policy decision.

Economic benefits have proven much more susceptible to measurement and objective analysis as evidenced by a large body of literature on the economics of higher education in recent years. Juxtaposition of the relative economic gains of schooling to society and to the student discloses that, on the one hand, the costs of schooling to society can be considered a financial investment that has produced a substantial addition to national income in the United States (in excess of $25 billion between 1929 and 1956) and, on the other hand, the costs of schooling to the student generally have been handsomely reimbursed in future lifetime earnings (although these earnings differentials have not been shared by non-whites, clergymen, teachers, and those with one to three years of college, among others). Again, notwithstanding the relevance of these economic considerations to the question of tuition, their weighting is subject to the philosophic orientation of the decision maker.

[19] "Education and the Investment in Human Capital", *Journal of Political Economy*, (supplement), October 1962.

SECTION II

COSTS OF PUBLIC HIGHER EDUCATION VERSUS ABILITY TO PAY

The costs of public higher education in California are borne largely (1) by the State, (2) by local school districts and (3) by parents of students or by students without significant parental assistance. In this section, current and projected expenditures by the State and by local districts are compared with current and projected income in order to provide some indication of the ability to finance the projected costs.

Use is made herein of the State expenditure and revenue projections prepared for the Council in 1963 [1] and of similar projections prepared by the Joint Legislative Budget Committee in 1964 [2] which together provide a retrospective view of projections used in the Master Plan. Projected Junior College costs and income for local districts have been constructed by the Council staff from various sources. To provide further perspective, reference is also made to state and local support throughout the nation. Similarly, the cost to students and their parents is reviewed with some reference to costs in other states. The ability to pay of California parents and students is examined first by comparing the economic status of parents and students in public higher education with that of their counterparts in private education in the state and second by relating their economic status to national standards applied by the College Scholarship Service in judging the need for scholarship assistance. This information is available from a report of the California State Scholarship Commission based largely upon a survey of 6,200 parents and students in public and private institutions in California.[3]

STATE AND LOCAL COSTS AND ABILITY TO PAY

Projections of State Costs and Revenues

The ability of the State to finance the projected growth in public higher education was examined in the preparation of the Master Plan in 1959. As summarized in Table 1, Appendix E, the Survey Team projected a deficit in the State's General Fund in the decade 1964–65 to 1974–75 ranging from $65 million to $117 million.

Since 1960, projected costs have advanced considerably whereas revenue projections have remained nearly stationary according to studies made in 1963 and 1964. A 1963 study projected an increase in public higher education operating expenditures from the State's General Fund from $375 million in 1965–66 to $873 million in 1975–76.[4] This accounts for 25% of the total projected growth in State General Fund expenditures of nearly $2 billion for the same period as shown in Table 2, Appendix E. The total deficit between General Fund expenditures and revenues is projected at $934 million in 1975–76. The most recent study was made under the auspices of the Joint Legislative Budget Committee in 1964 and is summarized in Table 3, Appendix E. Total State General Fund expenditures are estimated to reach $4.54 billion in 1973–74 whereas General Fund revenues are anticipated to be $3.49 billion, creating a deficit of $1.05 billion.

As is generally true of expenditure projections, even the most recent projection has proven to be much too conservative. The Governor's General Fund expenditure program (including Phase Two) for 1965–66 exceeds the 1965–66 expenditure projection of the Joint Legislative Budget Committee in 1964 by approximately $200 million, due largely to 1964 legislative augmentations to the public school support program. Although extra revenue under the existing tax structure also is estimated as a partial offset, extrapolation of the expenditure increases to 1973–74 combined with the following projection of Junior College costs would indicate a General Fund deficit of more than $1.5 billion by 1973–74 under the existing tax structure. The Governor's tax revision proposals (again including Phase Two) would increase General Fund revenues by $400 million in 1966–67. It may be appropriate to point out in this connection, however, that the Governor's higher education expenditure program for 1965–66 still falls far short of providing the amounts recommended by the Council for the three public segments of higher education.

Projection of Junior College Costs and Revenues

Tables 1, 2, and 3 in Appendix F have been constructed to show (1) the annual actual and projected current expenses of education for California's public Junior Colleges during the period 1961–62 through

[1] Griffinhagen-Kroeger, Inc., *California's Ability to Finance Higher Education*, February 1963.
[2] *A Projection of State Revenue and Expenditure for California, Fiscal Years 1964–65 to 1973–74*, mimeo., May 1964.
[3] Edward Sanders and Hans Palmer, *The Financial Barrier to College Attendance in California*, a report for the California State Scholarship Commission, April, 1965.
[4] Griffenhagen-Kroeger, Inc., *California's Ability to Finance Higher Education*, p. 43.

1975–76, (2) the State and local shares of the annual expenditure consistent with the Master Plan's provision that the State provide 45% of this expenditure by 1975, and (3) the statewide property tax rate required to finance the local share of the annual expenditure.

In summary, average daily attendance in Junior Colleges is estimated to increase from 294,400 in 1964–65 to 543,940 in 1974–75 assuming fulfillment of the planned diversion of potential lower division students from the University of California and the California State Colleges. The current expenses of education are projected to increase, based upon past a.d.a. cost history, from $173.9 million to $431.9 million. If the State assumes 45% of this expenditure in 1974–75, local property taxes will have to provide the remaining $237.6 million.

It is estimated that the local burden will require in 1974–75 a statewide property tax of 29.6 cents per $100 of assessed valuation. Such a rate level is less, however, than the tax rate of 35.2 cents that now represents the average rate levied in 1963–64 in all districts maintaining Junior Colleges. Furthermore, it is only slightly higher than the 28.5 cents that would have been levied statewide in 1963–64 if all territory in the state had been included in Junior College districts.

State and Local Support in Relation to Other States

Having reviewed overall projected State expenditures and income, as well as State expenditures for public higher education, it is believed useful to place in perspective the extent to which the State is supporting and is able to support the financial "burden" of its higher education programs. One such vantage point is a comparison with the efforts and burden of other states. Since most states are much smaller or are much poorer than California, two groups of states were selected to make such comparisons.

To make an overall state and local tax burden comparison, nine states were selected that were most comparable to California in per capita income and population size. These states—Illinois, Indiana, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio and Pennsylvania—appear as Group 1 in Appendix G, Table 1. California exceeded six of these states in an index of burden [5] of state and local taxes in 1961–62.

Since seven of these states have much or most of their higher education effort carried by private institutions, a second group of ten states was selected for a comparison of California's tax expenditure effort in public higher education. These states—Colorado, Florida, Indiana, Kansas, Michigan, Minnesota, Oregon, Texas, Washington and Wisconsin—are somewhat less comparable in per capita income and population size, as indicated in Appendix G, Table 1, but are quite similar in the preponderance of higher education enrollments accommodated in public institutions. All ten of these states exceed California in the index of tax burden used above.

In terms of its public higher education tax expenditure effort, however, California exceeds seven of these states as measured by the percentage of state personal income devoted thereto in the fiscal year 1961–62.[6] California invested 0.66% of its personal income in state and local tax support for operating expenditures of the University of California, the California State Colleges and the Junior Colleges in 1961–62. Washington had the highest rate of 0.75% and the lowest rate was 0.43% held by Texas. If this effort is weighted by the income available per person as was done for the overall index of tax burden, California drops to 7th in the list.

In conclusion, it can be said: (1) there are a number of populous and relatively high income states that carry a much smaller tax burden than California and that one contributing factor is the large proportion of higher education effort carried by private rather than public institutions; (2) among these moderately large and upper income states making a substantial public higher education effort, most exceed California in their overall tax burden but a number fail to match California's effort in public higher education expenditures.

COSTS TO PARENTS AND STUDENTS AND ABILITY TO PAY

Tuition and Required Fees

Tuition and other required fees in public institutions o higher education are shown in Tables G and H. Table G compares the 1962–63 fee pattern for various categories of public institutions with the 1964–65 fee levels for the California State Colleges and the University of California (the California Junior Colleges generally assess no fees). The University raised their fee level from $180 in 1962–63 to $220 in 1964–65 and the fee now approaches the median figure for public universities in 1963–64. The State Colleges remain substantially below the median figures for all categories of institutions but the Junior Colleges. (Table I is also included to provide some comparison with student fees in private institutions.)

[5] The index of burden formula is: (tax revenues ÷ personal income) × (1 ÷ per capita income) × 100. H. S. Frank presented this formula in "Measuring State Tax Burdens", *National Tax Journal*, 1959, p. 179. Expressed most simply, it is the amount of money removed by the state from each available $100 of statewide personal income as a percent of total money available per person. The Master Plan used the simple ratio tax revenues ÷ personal income, which fails to weight the income by the population base. Another refinement to the Master Plan approach is the inclusion in this formula of *local* tax revenue. The heavier local taxes are, the more difficult it becomes to increase state taxes—thus a combination becomes more meaningful.

[6] Again, the *local* tax expenditure affort is combined with the state effort in order to encompass local tax expenditures for the Junior Colleges.

TABLE G

Comparison of Low, Medium and High Tuition and Required Fees at the California State Colleges and the University of California for 1964–65, and All Public Institutions of Higher Education by Type of Institution for 1963–64 *

	Tuition and/or Fees Required of State Residents
California State Colleges	
Low	$76
Median	93
High	96
University of California	
Low	220
Median	245
High	250
All Institutions	
Low	12
Median	191
High	350
Universities	
Low	179
Median	268
High	424
Liberal Arts Colleges	
Low	67
Median	185
High	338
Teachers College	
Low	148
Median	227
High	325
Technological College	
Low	91
Median	250
High	423
Other Professional	
Low	226
Median	526
High	682
Junior Colleges	
Low	0
Median	128
High	296

* Low: 10th Percentile; Median: 50th Percentile; High: 90th Percentile. Aggregate comparison includes 704 institutions of which 92 are universities, 81 are liberal arts colleges, 156 teachers colleges, 16 technological colleges, 15 other professional colleges and 344 junior colleges.

SOURCE: *Basic Student Charges, 1963–64*, U.S. Department of Health, Education and Welfare, 1964.

Earnings Foregone

The foregoing discussion excluded subsistence and other living expenses from the costs of education to students and their parents. From the standpoint of economic analysis, this is appropriate. Young people have to be fed, clothed and sheltered whether they are in school or not. On the other hand, the contribution to national income which young people would have made if they had been working instead of studying has been considered by many economists as a proper cost of education. It is a real cost, not only to the students but to the economy, which is deprived of a certain amount or production (roughly measured by the students' foregone earnings) if part of the potential labor force is in school.

The concept of earnings foregone as one of the major costs of education is a key to a number of puzzles about education.[7] As one important example,

[7] Besides the one reviewed here, five are commented on by Theodore Schultz in *The Economic Value of Education*, pp. 30–1.

TABLE H

Comparison of Total Annual Fees * for Undergraduate Students, Year 1964–65

Institution	*Rank Order*	*State Residents*
Pennsylvania State	1	$525
Clemson State University	2	486
Ohio State University	3	375
University of Colorado	4	358
Indiana University	5	355
Colorado State	6	347
Iowa State University	7	345
State University of Iowa	8	340
North Carolina State	9	333
Purdue University	10	330
U. of O., OSU, and PSC	10	330
Michigan State University	12	324
Montana State College	13	320.15
University of Minnesota	14	315
Montana State University	15	307
University of Washington	16	300
Washington State University	16	300
University of Utah	16	300
University of Wisconsin	16	300
University of North Carolina	20	284.50
University of Michigan	21	280–310†
University of Illinois	22	270
University of Nevada	23	268
Kansas State	24	244
University of Kansas	24	244
University of California	*26*	*244*
University of Oklahoma	27	210
Oklahoma State	27	210
Texas A. & M.	29	200.80
University of Idaho	30	184
University of Texas	31	174
California State Colleges	*32*	*96*
Median of total annual fees		$300

* Includes student body fees but excludes charges for ancillary services such as room, board and parking.

† Lower fee is for lower division students; higher fee for upper division students.

SOURCE: Office of Institutional Research, Oregon State System of Higher Education, September 1964.

TABLE I

Comparison of Annual Tuition Rates at Selected Private Institutions 1964–65

Institution	*Tuition*
Yale	$1,800
Dartmouth	1,800
Massachusetts Institute of Technology	1,700
Tufts	1,700
Reed	1,700
Johns Hopkins	1,600
California Institute of Technology	1,575
Oberlin	1,550
Northwestern	1,500
Amherst	1,500
Occidental	1,425
Stanford	1,410
Pomona	1,400
Notre Dame	1,400
Columbia	1,350
University of the Pacific	1,350
De Pauw	1,300
George Washington	1,250
Vanderbilt	1,200
Redlands	1,200
University of Miami	1,200
University of Southern California	1,200
Tulane	1,200
Duke	1,050
Chapman	1,000
University of San Francisco	840
Willamette University	760
Creighton	750
Brigham Young	430

SOURCE: 1964–65 college catalogs for these institutions.

if earnings foregone were ignored, studies of lifetime earnings differentials associated with levels of schooling would indicate an exceedingly high rate of return to what high school and college students have been paying for their education. Even when all of the public and private school expenditures are taken into account, this rate of return is still very high relative to the rate of return on alternative investments. The inclusion of earnings foregone in the estimates of all costs of education cuts the estimated rate or return by about 60%.

In view of the importance of earnings foregone as a major component of cost, the techniques and data used in making estimates must be selected with care. Considerable economic literature has developed covering such issues as (1) the amount of offset to this cost created by part-time earnings of students in school; (2) the amount of offset to be prorated based upon a normal rate of unemployment;[8] (3) the wage rate to be used with respect to the hypothesis that those in school if available in the labor market would command a higher rate than their working counterparts in age who presumably are less talented.

One set of estimates of earnings foregone per student is reproduced in Table 1, Appendix A. In 1956, for example, a college student was estimated to be "out" $2,003 in potential earnings for the months he spent in school. Application of the unemployment rate reduced the average student's potential earnings to $1,943. In Table 2, Appendix A, this latter amount was applied to the nationwide college enrollment to derive a total earnings foregone estimate of $5.821 billion in 1956.

When this cost element is considered from the standpoint of the individual student and his family, it is evident that the student is contributing some 60% of the total cost of his education in terms of foregone earnings ($5.8 billion divided by $9.9 billion in Table 2, Appendix A) and that he exceeds that percentage by the amount of fees and additional expenses (books, supplies, travel) he incurs in undertaking his education. Considered from the point of view of society as a whole, this cost represents a loss in national income which must be accounted as an investment in the future (e.g., hoped-for future increases in productivity and national income).

Economic Profile of Public Institution Parents and Students—Ability to Pay

Comparison With Private Institution Parents and Students. As expected, the parents of California college students tend, on the whole, to be more affluent than the total population. This was shown in a report of the California State Scholarship Commission.[9] The parents of children in private universities are the wealthiest, as can be seen in Table J. Nearly 23% of the parents of students attending private universities in California had income of $25,000 a year or more. The next most affluent groups in general were the parents of students in the private colleges and the private denominational colleges. The families of the students at the University of California appear to have a very similar income distribution to that of the parents of students in non-denominational private colleges. The very lowest income group (0 to $1,999) at the University, however, included five times as many parents as did the private colleges and in percentage exceeded all other segments. The parents of State College students receive less income than parents in the previously mentioned categories. Parents of Junior College students are the least affluent of these categories. About 23% of these parents had incomes of below $6,000 a year and there were fewer people in the upper brackets in this category.

TABLE J

Parental Income Distribution *

Income Class	*Jr. Coll.*	*State Coll.*	*Unir. Calif.*	*Priv. Univ.*	*Priv. Coll.*	*Priv. Coll. Denom. Priv.*	*4-yr. Spec.*
$0–$1,999	1.6%	.7%	2.9%	.5%	.5%	.7%	1.4%
2,000– 3,999	6.2	3.3	2.0	1.3	2.9	4.1	3.5
4,000– 5,999	15.4	10.0	7.4	4.9	5.8	8.7	7.2
6,000– 7,999	19.0	16.6	11.0	6.5	11.7	13.9	13.1
8,000– 9,999	16.4	16.8	12.9	10.1	12.4	16.4	10.8
10,000–11,999	13.9	19.5	13.1	10.4	13.3	14.5	10.0
12,000–13,999	7.0	10.5	11.2	11.7	13.8	12.8	8.1
14,000–19,999	10.7	12.7	20.0	16.7	18.0	10.3	13.5
20,000–24,999	2.5	3.2	6.5	12.5	7.3	5.9	9.0
25,000 and over	4.0	4.4	11.6	22.7	11.9	10.7	19.9
No response	3.1	2.4	1.3	2.8	2.2	2.1	3.6

* See Table 1 in Appendix H for a list of the institutions in each category together with the percentage response to the questionnaire mailed.

SOURCE: California State Scholarship Commission.

The largest group of self-supporting students of any of the types of institutions attended the University of California. As seen in Table K, 55% of this group reported incomes of less than $6,000 per year. Among the self-supporting students in the State Colleges, the pattern was quite similar to that of the University with considerable numbers at the low end of the income scale. Somewhat surprisingly, considerably less Junior College students reported incomes below $6,000—30%. With the exception of the private universities, students at the private institutions also reported a high percentage receiving incomes below $6,000 (approximately 40%).

[8] Department of Labor Statistics for October, 1964 report that the jobless rate of the age group 20 to 24 years was 9.1%, nearly triple the rate for men 25 and older.

[9] Edward Sanders and Hans Palmer, *The Financial Barrier to College Attendance in California*, p. 46. A survey of some 6,200 students was made by questionnaire. Parents completed 77% of the questionnaires on behalf or their dependent children. Self-supporting students responded directly to the remaining 23%. Refer to Appendix H for the number surveyed by type of institution attended.

Some qualification seems necessary with respect to the above information. The student survey covered part-time as well as full-time students. Undoubtedly, many of the part-time students were partially or even fully employed and thus their income reported here overlaps the report of summer and fall semester earnings reviewed in Section III following.

TABLE K

Student Income Distribution

Income Class	*Jr. Coll.*	*State Coll.*	*Univ. Calif.*	*Priv. Univ.*	*Priv. Coll.*	*Priv. Coll. Denom.*	*4-yr. Spec.*
$0–$1,999	3.4%	8.0%	11.9%	2.3%	4.2%	9.0%	7.3%
2,000– 3,999	8.8	14.2	19.0	7.0	12.5	21.2	12.6
4,000– 5,999	17.6	19.6	24.4	9.3	25.0	12.1	18.9
6,000– 7,999	25.1	18.9	17.9	16.3	8.3	12.1	22.1
8,000– 9,999	15.9	12.0	9.5	9.3	25.0	12.1	11.6
10,000–11,999	10.3	11.3	4.8	4.7	4.2	15.2	8.4
12,000–13,999	6.2	6.2	4.8	4.7	0	3.0	4.2
14,000–19,999	4.1	4.0	3.0	18.6	4.2	3.0	5.3
20,000–24,999	2.1	2.9	1.7	0	4.2	0	1.1
25,000 and over	1.7	1.1	.6	14.0	4.2	3.0	3.2
No response	4.7	1.8	2.4	4.7	8.3	9.0	5.3

SOURCE: California State Scholarship Commission.

National Standards on Ability to Pay. In 1955 a carefully formulated procedure for assessing the financial contributions expected from students and families was developed by the Educational Testing Service. Currently in national use by the College Scholarship Service, it presently follows the findings of the Bureau of Labor Statistics that a family with two children requires an income of approximately $7,350 before federal income taxes in order to have a "modest but adequate" standard of living. Therefore, until a family has an income in excess of that amount, it has no surplus income available to it for "discretionary" spending. The amount of "modest but adequate" income varies of course with the number of children.

The report of the California State Scholarship Commission includes a table designed to show how the scholarship formula works for California families using census data for the income figures. This table appears below (Table L) and shows the percentage of families in California who in 1963 would have been unable to pay the costs for a child to attend institutions in the various segments of higher education.

The table should be read as follows: The University of California assumes a boarding student would require $1,600 for the nine-months year of which he would be expected to earn and contribute $400, the family, $1,200. Therefore, at the University, a family with one child required an income of approximately $8,000 in order to meet costs in 1963. If there is more income, the youth is declared "out of need"; if there is less, he is declared "in need." According to the national standard, 57.8% of the families in California with one child have an income of $8,000 or below and therefore could not be expected to be able to pay the charges at the University.

The Scholarship Commission report states that one major exception should be noted.[10] It has not been possible to take assets into account. On the basis of general experience, approximately 10% of all the families will have assets which will add to their capacity to pay. Therefore, approximately 10% more families can pay the charges than is indicated on the charts.

TABLE L

Percentage of California Families Falling Below CSSC *-Expected Income Levels

Institution	*No. of Children*	*CSSC Expected Income*	*% of California Families Falling Below CSSC Expected Income Levels in 1960*
I. Univ. of Calif.	1	$8,000	57.8%
A. *Resident*	2	9,250	69.0
cost $1,600/yr =	3	10,250	76.8
$1,200 contribution †	4‡	11,500	86.0
B. *Commuter*	1	6,000	35.2
cost $1,000/yr =	2	7,000	41.2
$700 contribution	3	7,750	52.6
	4	9,000	71.8
II. Calif. St. Coll.			
A. *Resident*	1	7,500	52.2
cost $1,450/yr =	2	8,750	62.2
$1,050 contribution	3	9,500	71.0
	4	10,750	83.1
B. *Commuter*	1	5,500	30.1
cost $1,000/yr =	2	6,500	34.9
$600 contribution	3	7,250	45.5
	4	8,500	67.1
III. Jr. Colleges			
A. *Resident*	1	7,000	46.7
cost $1,350/yr =	2	8,250	56.7
$950 contribution	3	9,000	66.8
	4	10,250	80.5
B. *Commuter*	1	4,750	22.8
cost $900/yr =	2	6,000	33.6
$500 contribution	3	6,500	36.3
	4	7,750	56.4
IV. Ind. Coll. & Univ.			
A. *Resident*	1	11,000	80.0
cost $2,400/yr =	2	12,500	86.0
$2,000 contribution	3	13,500	90.0
	4	14,750	93.0
B. *Commuter*	1	3,500	62.5
cost $1,700/yr =	2	9,500	69.1
$1,300 contribution	3	10,500	78.3
	4	12,000	88.0
V. 4-yr. Special Schools			
A. *Resident*	1	9,750	72.3
cost $2,000/yr =	2	11,000	79.8
$1,600 contribution	3	12,000	86.1
	4	13,250	91.0
B. *Commuter*	1	8,500	62.5
cost $1,700/yr =	2	9,500	69.1
$1,300 contribution	3	10,500	78.3
	4	12,000	88.0

* California State Scholarship Commission.
† The application of the formula in California assumes $400 per year in work contribution by male students to their own education.
‡ All entries for four children refer to four *and more* children.
SOURCE: Based upon Table XXIII in the report: Edward Sanders and Hans Palmer, *The Financial Barrier to College Attendance in California.*

SUMMARY

Recent projections of State General Fund expenditures and revenues indicate that the present tax structure of the State will fall short of financing expendi-

[10] *Ibid.*, p. 70.

tures by more than $1 billion in the early 1970's. The rapid growth in public higher education expenditures contributes a significant share of this deficit. On the local scene, if the State accepts the responsibility to finance 45% of the current expenses of Junior Colleges by 1975 as recommended in the Master Plan, local school districts can accommodate the projected growth in Junior College enrollments (including those diverted from the University of California and the California State Colleges) and still provide a substantial drop in the property tax rate if a statewide tax is adopted.

As a point of reference in evaluating the combined state and local tax burden carried in California, a comparison with nine populous high income states indicates that in 1961–62 California exceeded six of them in its overall tax burden. A similar comparison with ten moderately large and upper income states making a substantial public higher education effort shows that California's tax burden is the lowest but that it exceeds a number of these states in its public higher education expenditure effort.

To turn to the costs of higher education to parents and students and to their ability to pay, several conclusions can be drawn. First, student fees for California residents at public institutions of higher education in California are among the lowest in the nation. However, earnings foregone constitute a substantial loss in income for the average student, amounting to a total greater than the cost per student borne by State or local institutions of higher education. With respect to ability to pay, a survey of 6,200 California students in higher education by the California State Scholarship Commission study discloses that parents of undergraduate students at the University of California seem to be as affluent as those having children enrolled in the private colleges (not private universities, however). On the other hand, parents of University of California undergraduates also constitute the largest group, proportionately, among all types of institutions at the lowest income level. Parents of students in the Junior Colleges and State Colleges are located generally in moderate income levels. According to national standards used in assessing financial ability of parents for scholarship grant purposes, even under the most economical circumstances—namely, an only child commuting to a Junior College—22% of California families are unable to reasonably finance a Junior College education for their child.

SECTION III

THE INCIDENCE OF FINANCIAL BURDEN

The following examines the data available at this time as to who pays the costs of higher education and how these costs are financed. Reference first is made to the results of studies prepared for the Assembly Interim Committee on Revenue and Taxation. These studies include examination of those taxes which provide the major sources of revenue to the State General Fund from which State public higher education expenditures are appropriated. They also include examination of the local property tax which is the major source of revenue for Junior College expenditures. These studies estimate the percentage of income paid directly and indirectly in taxes by Californians, according to graduated income levels. The object in the use of these data is to ascertain the degree of progression or regression of each tax so as (1) to determine whether public higher education is being financed primarily by the lower income classes and (2) to determine whether the lifetime financial gain accruing to the average college graduate is actually tapped for a differential in tax revenue.

Second, reference is once more made to the report of the California State Scholarship Commission and the survey data upon which it is based. In this instance, the financial effort of families and of the students themselves is reviewed, distinguishing among the types of institutions attended.

Source of State and Local Tax Revenues by Economic Level

State Taxes. State tax support for public higher education expenditures is derived entirely from those taxes which support the State General Fund. Under the existing tax structure, the proportion of General Fund revenue coming from each tax category is shown as follows:

TABLE M

State General Fund Tax Revenues (in millions)

Taxes, Fees, etc.	*Estimated Revenues, 1965–66*	*Distribution*
Sales and Use	$1,022.1	42%
Tobacco	174.0	7%
Alcoholic Beverage	78.0	3%
Personal Income	392.2	16%
Bank and Corporation	423.0	17%
Inheritance and Gift	113.1	5%
Insurance	103.3	4%
Horse Racing	39.6	2%
Other Sources	92.2	4%
Totals, General Fund	$2,437.4	100%

SOURCE: *State of California Support and Local Assistance Budget* for the Fiscal Year July 1, 1965 to June 30, 1966, p. A-9.

Recent studies for the Assembly Interim Committee on Revenue and Taxation have computed the "percentage takes" for each of these taxes by graduated income levels as shown in Appendix I, Table 1. They are shown in summary form in the following table.

TABLE N

Effective Tax Rate (State General Fund) Based on Family Personal Income After Federal Income Taxes

Income Bracket	*Effective Tax Rate Per $100 (Combined Taxes)*
Less than $2,000	$4.41
$2,000– 2,999	3.52
3,000– 3,999	3.74
4,000– 4,999	3.22
5,000– 5,999	3.32
6,000– 6,999	3.64
7,000– 9,999	3.36
10,000–14,999	3.23
15,000 and over	6.84

SOURCE: Assembly Interim Committee on Revenue and Taxation, *Taxation of Property in California*, (Staff Report to the Committee), December 1964.

The unusual jump in rate in the last bracket is attributable to the fact that the highly progressive federal income tax has drastically lowered the net income after taxes and thus the already progressive State income tax appears to take an unusual increase in percentage of the net income.

Notwithstanding the percentage jump in the last bracket, it must be concluded that for the predominance of the taxpayers in the state, those taxes which finance the State General Fund are basically regressive. The degree of regression, moreover, is undoubtedly understated by use of the technique of first discounting the federal income take.

Local Taxes. Local tax support for public higher education (the Junior Colleges) is derived almost entirely from the local property tax. This is a highly regressive tax as indicated in the following table.

TABLE O

Effective Tax Rate (Property Tax) Based on Family Personal Income After Federal Income Taxes

Income Bracket	*Effective Tax Rate Per $100*
Less than $2,000	$9.21
$2,000– 2,999	10.44
3,000– 3,999	9.05
4,000– 4,999	7.99
5,000– 5,999	7.42
6,000– 6,999	7.03
7,000– 9,999	6.19
10,000–14,999	5.01
15,000 and over	5.63

SOURCE: Assembly Interim Committee on Revenue and Taxation, *Taxation of Property in California*, (Staff Report to the Committee), December

Pattern of Financing College Costs by Parents and Students

Parental Support Pattern. According to the report of the California State Scholarship Commission, the parent and student survey showed a high correlation between the income level of the parent and the

amount of cash support provided the student.[1] The pattern for the University of California was quite similar to that of the private colleges and the private denominational colleges, namely, cash contributions in excess of $2,000 a year from a considerable number of those families with incomes of over $12,000 a year. The proportion of families making such contributions in this category was not as high as that for the private universities.

In the State Colleges, also, there is a pronounced tendency for families with incomes of over $14,000 to contribute over $2,000 to $2,400 per year to their student children. On the other hand, a very large effort is being made by families at the lower end of the income distribution. For example, some 13.6% of State College families with incomes between $2,000 and $4,000 per year claimed contributions of between $400 and $800 per year.

Among the Junior Colleges, the incidence of very high contributions is not as great as it is among the private schools or the University of California. However, apparently many families at the upper end of the income spectrum find it necessary to contribute something in excess of $1,000 per year. Among the $25,000 per year group, for example, 25% were contributing between $800 and $1,000 a year. At the lower end of the income distribution, 15.8% of the families with $2,000 to $4,000 per year indicate that they were contributing between $400 and $800 a year.

On the whole, it seems that the pattern of fairly large contribution in the junior college sector is a bit surprising given the low cost of attending these colleges, and more importantly, the pattern of income distribution among both the parents and students attending in the junior college sample.

If we may compare cash contributions to incomes, it seems clear that the Junior College and the State College people are making the greatest effort relative to their income.

Student Support Patterns. Approximately 75% of all students in higher education in California work for wages during the summer break or fall semester, according to the survey of parents and students conducted by the California State Scholarship Commission. This and other information is detailed in Table 1, Appendix J. Parents' answers on behalf of their dependent children indicated that 72% earned less than $800 during the period under survey—July 1, 1963 to February 1, 1964. The percentage varied from 81% at the University of California to 69.4% at the Junior Colleges with the private institutions and State Colleges in between. As would be expected, answers from self-supporting students indicated that only 35% earned less than this amount. Approximately 35% in this group earned $1,800 or more during the period under study, ranging from 43% at the Junior Colleges and 25% at the State Colleges to 15% at the University of California and none at the private colleges. This is consistent with the fact that the Junior Colleges and State Colleges have a much higher ratio of part-time students than the other types of institutions.

Table 2, Appendix J, presents the distribution of student loans during the period July 1, 1963 to February 1, 1964.[2] Less than 10% of all students were assisted by loans during this period. The percentages varied from approximately 3% at the Junior Colleges to approximately 25% at the private denominational colleges. The State College rate was a little over 10%. The University rate was about 10% for students dependent upon their parents in contrast to 25% of the self-supporting students who assisted themselves with loans.

SUMMARY

Recent studies for the Assembly Interim Committee on Revenue and Taxation indicate that those taxes which finance public higher education in California are quite regressive in their combined impact. Those in the lower income classes then are bearing the greatest burden in financing the public costs of higher education. Also, of the average differential in lifetime earnings attributable to higher education, nothing is being recaptured to reimburse the public for its investment in higher education. That tax which is most regressive in impact is the local property tax. Thus, any trend toward increasing the proportion of Junior College costs to be borne by the State General Fund as recommended in *A Master Plan for Higher Education in California 1960–1975* would, of course, reduce significantly the burden carried by those in the lower income brackets.

With reference to that part of the cost borne by parents and students, students are receiving significant cash contributions from parents of all economic levels according to the State Scholarship Commission study. Moreover, despite the relatively low fees at the public institutions, substantial cash contributions apparently have been required even from low income families of students at those institutions (e.g., 13.6% of State College families with incomes between $2,000 and $4,000 per year claimed contributions of between $400 and $800 per year). Earnings from part-time work appear also to have been a significant source of financial assistance to most students whether dependent on their parents or self-supporting. On the other hand, loans were used by a relatively small proportion of students. Even so, other data indicates that the use of loan funds has dramatically increased since the advent of the NDEA program.

[1] Edward Sanders and Hans Palmer, *The Financial Barrier to College Attendance in California*, p. 56. Statistical data on this subject were not included in the report; therefore, reliance will be placed upon the narrative.

[2] The question posed in securing this information is ambiguous, as the respondent cannot clearly ascertain whether (1) the amount of loans outstanding or (2) the amount of loans taken out was the information desired for the period under study.

SECTION IV

STUDENT AID PROGRAMS

INTRODUCTION

Recent concern at both state and national levels over the availability of financial assistance to needy students and over the inability of some gifted students to obtain higher education because of financial difficulties, has led to a number of studies. A great volume of literature has been developed much of which is limited to particular institutions, areas, or special programs. Two recent publications have attempted to synthesize these materials and relate them nationwide to developmental aspects of student aid.[1] The sections that follow rely heavily upon these efforts with added California data where available.

The California State Scholarship Commission has completed a study of the financial aid needs of the State. Based upon a report of the study, the State Scholarship Commission presented to the November 1964 meeting of the Council a series of financial aid recommendations concerning means for maintaining equal educational opportunity for the state's bright but economically deprived youth.[2] This study has produced up-to-date and specific information to use in appraising the current status of need for student aid.

In addition to the financial resources of parents and students, there are several possibilities of providing sums needed for a college education. Primarily, these are scholarships and fellowships, loans, employment, and savings caused by living at home. California, with the great bulk of its college and university capacity located in areas of population concentration, may well be considered the leader among the states in making the possibility of living at home a reality for many students. This development is consistent with the basic principles of the Master Plan, which also recommended, (1) expansion of the State Scholarship program, and increases in amounts of scholarships to cover increased costs, (2) funds for graduate fellowships to divert more college graduates into teaching and to make it possible for graduate schools to operate at near capacity, and (3) reaffirmation of the tuition free principle for state residents at the public four-year institutions plus additional provisions for student aid and loans as fees and nonresident tuition increase.[3]

Efforts have been made to estimate the gross amount of student aid available nationwide.[4] While subject to numerous limitations and excluding military and special employee programs as well as guaranteed and other commercial loans for which reliable estimates do not exist, the following table gives some insight into aid available in 1960–61.

From the above it may be estimated that nationwide some $91 million was available in the form of loans exclusive of guarantee and commercial loans and some $190 million in scholarships and fellowships in 1960–61. $99 million was available for student employment by collegiate institutions.

Scholarships and Fellowships

While there is no central source of information about federal assistance through fellowships at the

[1] Seymour E. Harris, *Higher Education: Resources and Finance*, (New York: McGraw-Hill, 1962), especially pp. 169–305, and Elmer D. West, *Financial Aid to the Undergraduate*, (Washington, D.C.: American Council on Education, 1963).

[2] The Council approved these programs in principle on November 24, 1964.

[3] *Master Plan*, pp. 6, 11, 14–15. The Survey Team also noted that California State scholarships have been used more in private than in public institutions, thus affording youth a greater freedom of choice and the possibility of savings to the taxpayer in both capital outlay and operating costs, p. 78.

[4] Elmer D. West, *Financial Aid to the Undergraduate*, pp. 50–51.

TABLE P

Student Financial Aid in the U.S., 1960–61

Program & Source	*Type of Aid*	*Number Aided (thousands)*	*Dollars (millions)*	*Primarily for*
2,000 College and Universities, (institutional funds)	Scholarship	288	$98	UG
	Loan	56	15	UG
	Employment	348	99	UG
	Fellowship	15	21	G
Federal Government				
NDEA	Loans	151	73	Combined
	Fellowship	3	7.4	G
NIH	Fellowship	4.2	20	G
AEC	Fellowship	3.5	1	G
NSF	Fellowship	4.2	14	G
Bureau of Indian Affairs	Scholarship	0.6	0.25	UG
State Programs	Scholarship-Fellowship	54	23	Combined
	Grants	16	4.5	UG
	Loans	7.4	3.3	UG
	Scholar incentive (N.Y. State)	120	13	Combined
Corporation and Others	Combined	200	40	Combined

graduate level, it is estimated that four federal programs, NASA, the National Science Foundation, the NDEA and the National Institute of Health will under existing rates provide 12,000 fellowships at stipends of $1800 to $2400 per individual.[5]

Although the need and importance of graduate fellowships cannot be understated, in recent years increasing emphasis has been placed on the need for undergraduate scholarships to aid able high school graduates who for financial reasons do not go on to college. Awards of graduate fellowships do not in the main emphasize need as a basic criterion. In awarding undergraduate scholarships there is a growing emphasis upon financial need as a primary factor along with ability. This emphasis has been expressed nationally and is a part of the California State Scholarship program.

President Eisenhower's Committee on Education Beyond the High School in its second report considered it desirable that scholarships providing at least half the cost of tuition and maintenance be made available to as many as the top 20% of qualified high school and needy graduates. It estimated that $750 million would be needed annually by 1970. It was the Committee's conclusion that the federal government's responsibility existed only after public and private groups had made their contributions. The Eisenhower proposal and a later one by President Kennedy proposed limited programs for 1½% and 1% respectively of current undergraduate enrollments; both failed of enactment. President Johnson now has a bill before Congress entitled the "Higher Education Act of 1965" which would initiate an undergraduate scholarship program of $70 million in the first year for grants up to $800 per academic year for qualified high school graduates from low income families. California's allocation under this proposal is now estimated at $5.7 million.

While estimates have been made that some 16.5% of undergraduates received scholarships, Harris points out that the major deficiencies of scholarship programs are due to (1) the low stipends offered and (2) the exclusion of some 50,000 to 100,000 out of 200,000 able students each year who should go to college but do not enroll because of financial difficulties.[6]

West, in appraising data available on the source of scholarships, concurs that colleges and universities continue to be the primary source. The $98 million reported by the U.S. Office of Education in 1959 for institutional scholarships (not all for undergraduates, however) increased from $27 million in 1949. He reports some $16.3 million in state financed scholarships and fellowships and estimates some $17 million from corporate support from foundations and other sources. He indicated that whatever the source, the growth in scholarship funds must increase by almost 40% between 1959 and 1965 to keep pace with growth of high school graduates alone. Scholarship funds in California have increased from $4.9 million in 1959–60 to $7.5 million in 1963–64, a 53% increase. However, the full-time college enrollment in that period has increased 40% and the average cost of tuition and fees has increased 30%.

In 1959–60, California ranked sixth among the states in the amount of college and university scholarships awarded. Its $4.9 million compared with New York's $12.2 million, Pennsylvania's $10 million, Massachusetts' $8.5 million, Ohio's $5.2 million and Illinois' $5.1 million. California's enrollments exceeded those of any state. Average stipend among the above six states varied from $260 in Illinois to $679 in Massachusetts, with California at $388, slightly above the national average of $341.

The excellence and desirability of state scholarship programs with emphasis on need and ability such as that in California is attested to in national studies and in the reports of the State Scholarship Commission. With stipends for student fees and tuition permissible up to $900 and with limitations up to $1500, the total number of scholarships awarded is now 5,120. Approximately two-thirds of the recipients are enrolled in California independent colleges and universities. The Commission points out, however, that in 1963 it was able to provide scholarships to approximately 1% of graduating high school seniors and in 1964 this dropped to .75%. The percentage will continue to decrease as high school enrollments increase. From its current study of student financial aid needs in California the Commission's most recent report indicates:[7]

1. School and college population is increasing relatively faster than the number of State Scholarships.
2. College costs have increased markedly over recent years and have increased much faster than personal income.
3. College administered scholarships and financial aid resources (which never have been adequate) will not be able to keep up with increased costs and enrollment.
4. To continue the expansion of independent colleges additional State Scholarships will be necessary.
5. To maintain access to higher education, additional financial aid must be made available to the finest students who are not financially fortunate.

The contribution of scholarships to the rise of tuition and fees is noted by Harris. Scholarships provide relief to needy students, and they also provide income to colleges. An institution may find that its only available source of a substantial increase in in-

[5] *Ibid.*, p. 109.
[6] Harris, *op. cit.*, p. 195.
[7] *Fourth Biennial Report*, (Sacramento, November 1964), p. 7.

come is through increased tuition and fees. Each increase in tuition creates serious financial hardships for students whose margin of income over expenditures is slight or non-existent. No college wishes either to drive some able students away or to exclude others because of high tuition. Thus an institution planning to increase tuition must first secure substantial scholarship funds. The presence of adequate scholarships makes higher tuition possible.

In his consideration of scholarships Harris also cites needed improvements: many receive amounts in excess of need, many in amounts so small as to be wasted, the most needy are scarcely considered, pools of students from which choices are made are often needlessly narrowed, and distribution by colleges and regions could be improved.[8] West concludes, "there are barriers, and particularly socio-economic barriers, which deprive capable students of a higher education and deprive the nation at the level at which they could perform." He believes that a nationwide program making available small scholarships and providing hope would go a long way to reducing barriers to equal opportunity.[9]

Both Harris and West consider the question of the relation of scholarships to low tuition or student charges. Both conclude that free or low tuition is not a substitute for scholarships and that scholarships are needed by many students in the low tuition public segment. Neither considers low or free tuition as a scholarship program and Harris repeats the general view of public institutions that even greatly expanded scholarship programs are not likely to provide aid to more than 25% of the student body and that the average student can be helped only through low tuition charges.[10]

Loans

Loans as a source of student aid, influenced in large part by the NDEA student loan program, are increasing. In 1955–56 institutional loans were reported for 77,107 students in American colleges and universities. In 1959–60 some 178,000 loans were reported from institutional or NDEA sources, the sum being $64 million. In the following year 214,000 were reported from institutional, NDEA and state sources totaling $91 million. Over 70% in number and amount were under the NDEA program. Nationwide, students borrowed $274 per loan from institutional sources and NDEA loans averaged $434.

In 1959–60 the U.S. Office of Education reported that California institutions loaned $502,920 to 2,358 students from institutional funds and $3.8 million was devoted to 7,215 under the NDEA program. In terms of dollars California ranked 9th among the states in institutional loans and second to New York in NDEA loans.[11]

All recent studies have emphasized the growth of this source as a means of student aid. For example, the 1963–64 *Financial Report* of the University of California indicates that funds available for student loans from NDEA and all other sources for the University system grew from some $2 million in 1959 to $11 million in 1964 with only slightly over half of the total ($5.9 million) due to NDEA funds. The report indicates that 72% of the total was in outstanding loans. This compares with a utilization rate of 62.5% on June 30, 1960.[12]

The 88th Congress extended the NDEA loan program with authorization expansion each year to $195 million in 1968. The President's proposed "Higher Education Act of 1965" would extend and expand it further to 1971 and also would commence a program of insuring and paying part of the interest of commercial loans up to $700 million.

While undoubtedly the NDEA program has been an important stimulus to this development certain changes in administration of loans by the institutions have contributed. Such provisions include easy conditions of interest and repayment, entrusting the task to those who believe in the loan principle, and coordinated administration of loans, scholarships, and jobs in one central office. West indicates that publicity given to the advisability of a college education even on borrowed money and the practice of college financial aid officers of spreading available aid through combinations of scholarships, jobs, and loans have contributed to this increase.[13] Also state action through creating higher education assistance corporations and guaranteeing commercial loans have increased the availability of loans.

The 1960 survey of borrowers under the NDEA programs showed that 93% were undergraduates, 71% came from families with annual incomes of $6,000 and under, and of all borrowers, 85% were financing their education one-half or more from sources outside the family (loans, scholarships and jobs). Sixty-three percent of the borrowers indicated they were planning to teach and thus become eligible for forgiveness features. Only experience will indicate the extent the program may be converted into a scholarship program with this condition attached.[14]

Among some of Harris's arguments for a large loan program are the following:

1. It will remove some of the unfortunate effects of higher tuition.
2. It will make scholarship money go further.

[8] Harris, *op. cit.*, pp. 251–252.
[9] *Ibid.*, p. 125.
[10] *Ibid.*, pp. 202–3, West, *op. cit.*, pp. 110–11.
[11] West, *op. cit.*, p. 39.
[12] University of California, *Financial Report*, 1960–61.
[13] West, *op. cit.*, p. 95.
[14] *Ibid.*, pp. 59–60.

3. It will provide help for deserving students who are not quite good enough to merit scholarships.
4. It will enable large numbers to enter professions where both training costs and financial rewards are high.
5. It will aid students who plan to become teachers.

Neither Harris nor West consider loans a substitute for scholarships. The latter observes:

> Loans may supplement scholarships and in many instances may provide all the funds needed. But they are not adequate substitutes. There are many occupations in which income is too small to repay a substantial loan incurred during undergraduate days. A large indebtedness might also prevent a capable college graduate from undertaking graduate work or entering professional training.[15]

Employment

When considering aid offered students, one must recognize, as has been demonstrated earlier, that no one means is exclusive. For example, of some 3,167 offers of financial aid by Ivy League colleges, 75% consisted of combinations of financial aid, i.e., scholarships and loans and jobs. A similar study in 1962 of offers by 10 colleges showed 70% were combination offers. While varying between colleges, this inter-relationship cannot be ignored.

More students than previously are now employed. In 1940 only 17% of those enrolled in school were full or part-time members of the labor force. By 1956 the proportion was 40% In 1960 the estimate of student earnings was $1 billion.[16] In 1959–60 more students were employed by institutions of higher learning than were granted scholarships; also more were employed than ever before. For example, at least 50% of the San Francisco State College full-time enrollment is engaged in some type of employment. Nationally, hours worked per week average ten hours for men and a slightly higher figure for women; this national average compares favorably with the number of hours worked by San Francisco State College students. An NDEA survey of student job funds in California in 1963–64 reported some $20.4 million available. A similar survey by the College Scholarship Service for the same year, however, reported that $1.6 million was set aside for student jobs for needy students only.

The President's proposed "Higher Education Act of 1965" would extend the college work-study program, increase it from $56 million to $129 million, and transfer it from the War on Poverty program to the Office of Education.

In the case of graduate students, part and full-time employment is not the primary source of income, although it does play an important role. This generalization is due to the considerable variability of income and needs of graduate students.

An excellent reference in this area is J. A. Davis' *Stipends and Spouses,* the result of a national survey (questionnaire) of 2,842 graduate students who cooperated in a study of student income sources and expenses expected for the period 1958–59. Of the income-sources noted, stipends and savings comprise the major income for the majority of graduate students; *employment* (part and full-time) was the third factor. Only 29% of these students worked at part-time jobs and less than half of this number made $100 or more monthly through this source of income. Only 18% of these students were employed full-time. However, one-half of the graduate students were married, and one-half of these or one-fourth of the 2,842 students were aided by a spouse's full-time job.

For married students, the family role position became a major consideration in weighing financial capability. Although fathers normally have higher incomes (including a working spouse) they have more financial difficulties, often caused by work which diverts them from their studies. Children, of course, are a definite drag on finances. In contrast, single graduate students as a rule have lower incomes, low financial needs and seldom work full time.

SUMMARY

Evidence shows that scholarship funds are going to children from families in income groups substantially above average income families of the United States. Whatever the reason, lower economic classes are not favored in proportion to numbers, abilities or economic status.

Loan practices and student employment show a reversed situation. While little research evidence relates student employment to family income, it is assumed that those who work need the additional income.

Certain general conclusions seem warranted: (1) scholarship programs today are considered inadequate, (2) full-time students are working to a greater degree than ever to supplement their incomes, and (3) the recourse to loans is an emerging but unevaluated phenomenon.

Loans should not be considered a substitute for scholarships. There are many occupations in which income is too small to repay a substantial loan incurred during undergraduate days. A large indebtedness might also prevent a capable college graduate from undertaking graduate work or entering professional training; such a negative dowry for women also deserves consideration.

In conclusion, it would seem clear that any action to raise student fees substantially should be taken only in the light of further development of student aid and, most particularly, substantial increases in undergraduate scholarships on a basis that makes them widely available to students from low income levels.

[15] *Ibid.*, p. 109.
[16] Harris, *op. cit.*, p. 265.

SECTION V

TUITION CHARGES AND POSSIBLE EFFECTS

Impact of Tuition on Enrollment

In Section II it was pointed out that a student, on the average, will forego earnings well in excess of $2,000 per year (at today's wage levels) by attending an institution of higher education on a full-time basis. If to this is added $200 in costs of books, supplies and other school-related items and the prevailing rate in student fees, a new annual tuition fee of $100 to $200 represents a cost increase to the student of only 4% to 8%.

Economists agree that the demand for higher education is inelastic; that is, a rise in price would not greatly reduce "purchases."[1] Continued increases in personal income and in student aid programs would further dilute the impact. Of course, the past growth of public institutions relative to private institutions indicates that *great* differences in fees do become a crucial factor. However, statistical evidence on demand-price relationships in higher education when modest increases in fees are instituted is not available. The past decade of out-of-state student enrollment at the University of California during times of non-resident tuition fee increases may provide some support to the "inelasticity" theory. This is shown in Table Q.

TABLE Q

Non-resident Tuition-Enrollment Trends at the University of California

Year (Fall) (1)	*Non-resident Tuition Fee Levels* (2)	*Non-resident Enrollment* (3)	*Total Enrollment* (4)	*Col. (3) as Percent of Col. (4)* (5)
1953	$300	3,751	33,382	11.2%
1954	300	3,949	35,273	11.2
1955	300	4,482	38,594	11.6
1956	300	4,944	40,313	12.3
1957	300	5,488	42,039	13.1
1958	400	6,068	43,478	14.0
1959	500	6,289	44,878	14.0
1960	500	7,267	49,169	14.8
1961	500	8,278	54,265	15.3
1962	550	9,360	58,616	16.0
1963	600	10,727	64,504	16.6

SOURCE: University Dean of Educational Relations, Nov. 3, 1964.

It is evident from the Table Q that non-resident tuition fee increases during the past decade at the University did not stop a continued increase in the percentage of non-resident enrollment to total enrollment.

Additional evidence of the minal impact of a tuition fee increase is afforded by a study which examines the weight of various factors motivating college attendance.[2] A nationwide sample of heads of households was taken on a variety of factors presumed to relate to educational motivation. These were statistically correlated with the actual educational achievement of the children of the heads of households by use of a multi-variate analysis. This technique statistically isolates each factor in its effect upon the educational achievement of the children. The results of the analysis appear in the following table.[3]

TABLE R

Characteristics of Spending Unit Heads Contributing to Children's Motivation to Attend College *

Characteristics of the Heads of Spending Units	*Rank in Importance*
Education	1
Difference in education of heads and wives	2
Occupation	3
Number of children	4
North-South migration	5
Need-achievement index and attitudes toward hard work	6
Peak earnings	7
Religious preference and church attendance	8
Age at birth of eldest child	9
Difference in education of heads and fathers	10
Color	11
Urban-rural migration	12
Age	13

* Calculated for spending unit heads who have children finished with school.

The importance of the father's education as the major factor influencing the education of children is supported by parallel findings from a study of parents' aspirations for educating their children of school age. The "ability to pay" of the parent seems to rank well down the scale in degree of influence—peak earnings as a factor ranks seventh in importance. The authors acknowledge however that empirical deficiencies in this measure may cause it to be less of an index of lifetime earning patterns than the factors of education and of occupation. With respect to the latter factor, evidence earlier in this report indicates that professional and managerial workers are better able to afford college education for their children than operatives or laborers. The link between the educational motivation of the children and the occupation of the father, on the other hand, may be the observation by the children of the close relationship between educational attainment and high status success in a career. The authors conclude that:

> The positive associations between children's education and education of the parents and the need-

[1] Seymour E. Harris, *Higher Education: Resources and Finance*, p. 159. Harris sent a questionnaire to 350 economists. The 220 who replied attested to the above mentioned inelasticity.

[2] Harvey E. Brazer and Martin David, "Social and Economic Determinants of the Demand for Education", *Economics of Higher Education*, Selma J. Mushkin, ed., pp. 21–42.

[3] *Ibid.*, p. 27.

TABLE S

1964 Enrollment Adjusted for $100 Tuition

	University	*State Colleges*	*Junior Colleges*
Full-time Enrollment	71,500	92,600	155,300
Less: Non-resident Enrollment	13,000	5,500	(unknown)
Resident Enrollment	58,500	87,100	155,300
Less: 2% "leakage"	1,170	1,740	3,100
Adjusted Full-time Enrollment	57,330	85,360	152,200
× $100 Tuition Fee	$5.7 million	$8.5 million	$15.2 million
Part-time Enrollment	5,300	56,200	285,600
Less: 2% "leakage"	100	1,120	5,700
Adjusted Part-time Enrollment	5,200	55,080	279,900
× $50 Tuition Fee	$0.3 million	$2.8 million	$14.0 million
Total Revenue	$6.0 million	$11.3 million	$29.2 million

achievement index of parental values suggest strong underlying values stimulating educational achievements. Occupation, peak earnings, age at birth of first child, and number of children probably derive a portion of their impact on attained education from their relationships to lifetime earning patterns and the ability to pay for higher education.[4]

A final view of the impact of a tuition fee is afforded by Table L in Section II. This table indicates the percentage of California families which are financially unable to meet the expenses incurred at the various types of institutions. Clearly, these percentages will increase as tuition is increased.

Impact on Institutional Income

Assuming at most a negligible impact on public higher education enrollments of the assessment of a modest tuition fee, probable tuition fee income can be calculated. The following estimates in Table S arbitrarily assume (1) a "leakage" of potential students away from public higher education of 2% for each of the first two $100 increments in tuition (the percentage may well rise with added increments), (2) an average tuition charge to part-time students 50% of that for full-time students, and (3) that a tuition fee not be superimposed above that already charged non-resident students.

Impact on the Social Composition of Enrollment

Although the first part of this section analyzed the potential impact on enrollment of initiating a tuition fee and concluded that relatively few students would drop out or fail to enroll with the first two $100 increments in tuition, there will commence a pervasive change in the social composition of the student body. Assuming no re-investment of the tuition fee income in scholarship funds covering both fees and subsistence, the "leakage" away from higher education will consist of superior students from the bottom financial stratum. Also, based upon the above review of the weight of factors affecting motivation for college attendance, higher student fees would commence to deter those students with reasonably adequate finances who may be deficient in motivation. Whether the resulting benefit to higher education would compensate for the adverse effect to society is a point for debate. Among the categories of students most likely to drop out of the college community for reasons of low finances or motivation are Negroes, women, those from large families and those from non-Jewish middle-class families with no tradition of college attendance.[5]

A further complication arising from a substantially higher student fee structure is a potential shift by abler students from curricula leading to modest future income to programs which have a much higher future earning potential. For example, any finanical discouragement of women students may tend to reduce the supply or quality of prospective elementary and secondary school teachers. However, there appear to have been no definitive studies performed which would shed satisfactory light on the subject.

The above indicates that tuition undoubtedly will have an impact on the differentials of socio-economic strata found in the various segments. It should also be recognized, however, that other factors such as the institutional image, scholarship practices, and student selectivity also serve as strong determinants in typing the socio-economic profiles of students at various institutions.

Impact on Private Institutions

Examination has been made of the relationships between public higher education and private higher education across the nation with respect to tuition differences.[6] According to Seymour Harris:

> Elsewhere I noted that an overall examination by *regions* does not seem to yield the conclusion

[4] *Ibid.*, p. 40.

[5] Seymour E. Harris reported these comments derived from his survey of economists. *Higher Education: Resources and Finance*, p. 162.

[6] *Ibid.*, p. 94.

that, where enrollment in public institutions is relatively large, fees of private institutions tend to be relatively low. Undoubtedly one reason for this is the fact that, where the competition of public IHL (institutions of higher learning) is especially strong (i.e., the Far West), incomes also are very high.[7]

Thus, if we consider the isolated case of California, where the ratio of private to public institutions is very low, we could either argue that the high median income of the state swamps the depressing effect of relatively low private enrollment capacity upon private tuition charges or that in situations in which the ratio of private to public enrollment capacity is extremely low, the inelasticity of demand for private higher education becomes operative, permitting private institutions to charge high tuitions. The two arguments are not really alternatives but are complementary, as high median income serves to reinforce the demand for private higher education.[8]

The fact upon which these comments were based is a tuition average for an unidentified sample of eleven private institutions in the Far West. For many of the less prestigious private colleges in California, the tuition-free policy in public higher education may have created serious financial difficulties over the years.

The comments above, however, would indicate that establishing a tuition fee in public institutions would have little, if any, direct effect upon most private institutions of higher education in California.

In summary, analysis of the variety of effects of inaugurating a tuition policy in public higher education in California, shows that initial $100 increments in tuition would have little impact upon enrollment, a substantial impact upon institutional income, a pervasive and adverse impact upon the socio-economic profile of the student body and no measurable impact upon the private institutions.

[7] *Ibid.*, pp. 91–2.

[8] *Ibid.*, p. 100.

SECTION VI

ALTERNATIVE POLICIES AND PROCEDURES

The philosphy underlying the Morrill Land-Grant Act of 1862 and the University of California's Organic Act of 1868 was to make higher education democratically accessible and to provide trained manpower for the expanding national and state economies. The tuition free principle thus emerged quite naturally in the founding of the University. Persistence of low-cost education for students in the State Colleges and Junior Colleges as well as in the University can also be attributed to this philosphy.

To this point we have considered primarily the case for this historic philosophy of which the tuition free principle is a prime manifestation. For this reason, this section considers first the question as to how effectively tuition free education has implemented the basic philosophy. Secondly, a review is undertaken of the alternative of either continuing tuition free education or initiating a tuition policy. Together with choices within each of these alternatives, the basic implications or effects of each choice will be noted briefly. Third, in the event a tuition policy is stated, alternate ways of setting tuition rates are commented upon. Finally, alternative uses of the tuition receipts are suggested.

Degree of Accessibility

Californians widely believe that California's extensive system of tuition free public institutions of higher education rank the state high in the nation in making a college education available to its youth. Recent findings cast serious doubt on this assumption. In the report of the State Scholarship Commission a number of statistical conclusions bearing upon this point were derived. For example, the progress of an age cohort born in 1941 was traced at several points for both California and the nation. Although California exceeds the national average in the proportion of high school graduates who become first-time, full-time college enrollees (53.5% vs. 42.8% in 1959), its record in producing bachelor's degrees is less than the national average (22.7% vs. 28% of 1959 high school graduates, in 1963).[1] As another illustration, in 1962 California exceeded the nation in the proportion of 15–19 year-olds enrolled in college (52% vs. 28%). However, the proportion of 20–24 year-olds who graduated from college in 1962 was less for California than for the nation as a whole (3% vs. 3.5%).[2]

Presumably, costs of education and family income influence the percentages above. Table K in Section II disclosed the percentage of California families which fall below the level of income that is reasonably expected to finance a child as he attends the various public and private segments of higher education. These data show, for example, of California families having two children, 41.2% would incur unreasonable hardship in financing a child's (commuting) attendance at the University of California. Similar proportions for the State Colleges and the Junior Colleges are 34.9% and 33.6%. In fact, however, families of 16% of University commuting students have undertaken such a hardship with the exception of those whose children may have obtained sufficient student aid. Similar proportions for the State Colleges and Junior Colleges are 18% and 25%.[3] In any event, it is clear from the percentage difference for each segment that a substantial number of California families have insufficient income to send their children to college and have found themselves unable to assume the necessary hardship or to obtain sufficient student aid to do so.

The influence of family income upon college attendance also is indicated in Table T.

TABLE T

College Attendance by 18-Year Olds in Given Family Income Groups United States and California

United States Income	*Percent in College*
$0– $3,000	33%
$3,000– $6,000	44
$6,000– $9,000	55
$9,000–$12,000	65
$12,000 and above	78

California Income	*Percent in College*
$0– $2,000	12%
$2,000– $4,000	21
$4,000– $6,000	26
$6,000– $8,000	23
$8,000–$10,000	27
$10,000–$12,000	44
$12,000–$14,000	53
$14,000 and above	73

SOURCE: Edward Sanders and Hans Palmer, *The Financial Barrier to College Attendance in California*, p. 60. The U.S. data is drawn from a research program called *Project Talent* conducted by Dr. John Flanagan based on a periodic survey of 440,000 students who were high school seniors in 1960. The California data is drawn from the questionnaire survey of 6,200 students by the State Scholarship Commission study. It should be pointed out that both the Sanders-Palmer report and this report include the *Project Talent* data with some skepticism at to its validity. The supporting data and methodology are not available for inspection.

It must be emphasized that financial ability is only one of a variety of factors motivating college attendance. Nevertheless, the study team for the State

[1] Edward Sanders and Hans Palmer, *The Financial Barrier to College Attendance in California*, p. 11.
[2] *Ibid.*, pp. 18, 20.
[3] *Ibid.*, p. 162.

Scholarship Commission has stated that, "the studies we have quoted give considerable assurance that for a substantial number of students, financial need is a critical reason for the decision not to go to college at the present." [4] It seems fair to conclude that tuition free education in California public institutions of higher education has failed to maximize college attendance by those from the lower economic levels and that it has benefited primarily those from the upper economic levels which have the highest representation in public colleges. Since it has thus failed also to maximize the supply of college-trained manpower for the State's economy, it is appropriate and timely to consider alternatives to the present pattern of financing public higher education.

Tuition Versus Tuition Free Education

The two basic alternatives—tuition versus tuition free education—are subject to numerous policy variations. These may be stated as follows:

Continuation of the Tuition Free Policy. Although the status quo may be deficient in the terms reviewed immediately preceding, merits of the present system include a philosophic recognition of the benefits of a broad highly educated stratum in the state's economy and society and of the equity of the right of each individual to rise to whatever socio-economic level his potential and motivation will lead. It further recognizes that each student and his family already contribute more than half the total investment cost in terms of earnings foregone, student fees, and books, supplies, travel and other miscellaneous expenses. Finally it recognizes that many persons who attend college fail to achieve any substantial financial benefit from their education. Those who achieve great personal economic gain from a higher education investment however, apparently do not reimburse the State for its share of the original investment cost in view of the fact that the State and local tax structures are generally regressive.

The present and future difficult financial condition of the State is, of course, discounted under this alternative. Also, the ability of many families to contribute a more substantial and immediate share of the cost is ignored.

Policy variations which may be applied to the tuition free system include:

1. Exemption of students from inadequate income families from the present student fee system.
2. Augmentation of the present State Scholarship program both in numbers of students served and in the types of costs covered such as room and board.

Either or both of these variations would further implement the philosphy underlying the tuition free policy by materially incresing the number of students from low income families. (Reference was made at several points in Section IV to the President's proposed "Higher Education Act of 1965". With respect to its scholarship proposals, it is of interest to note that the Act would go far to accomplish the second policy variation above, if adopted by Congress, as some $5.7 million is contemplated for California.)

3. Revision of the present tax structure to recapture much more rapidly any higher earnings resulting from a college education.

This can be accomplished by one or both of two ways. First, a massive substitution of State tax revenue could be substituted for the extremely regressive property tax revenue. Second, State taxes could be made much more progressive in impact particularly through more reliance upon the progressive State income tax. Such revisions should improve the long range tax revenue potential of the State.

Institution of a System of Tuition Fees. Although the primary merit of this alternative is to facilitate the financing of certain critical higher education and State financing needs that may not otherwise be financed, theoretically a tuition fee system could be so structured that progress toward the objectives underlying the present tuition free policy—accessibility and trained manpower—could be continued unimpaired. Another merit is that those who can afford to pay would now have their State subsidy reduced. Adverse effects include, (1) raising of an additional obstacle to a college education even for those who are financially qualified and (2) a greater degree of discrimination against those who choose careers of low financial reward such as teacher, clergyman, or homemaker. Indeed, any cost increase to the student increases the tendency to choose that course of study that is most likely to lead to future monetary gain, regardless of social needs.

Policy variations within this alternative include the following:

1. Continuation of the tuition free policy for the Junior College segment and institution in the two public four-year segments of a system of tuition exemptions at the upper division and graduate levels for children of inadequate income families, regardless of scholarship.

Such a policy would maintain one channel of tuition free education for those who might otherwise be deterred from undertaking and persisting in a four-year program of higher education for financial reasons. A constructive by-product of this policy would be an increased inducement for potential lower division students in the two four-year segments to commence their college education at a Junior College in accordance with the Master Plan policy on diversion.

[4] *Ibid.*, p. 141.

2. Augmentation of the present State Scholarship program both in numbers of students served and in the types of costs covered such as room and board.

This policy also would continue a degree of recognition of the philosphy underlying the present tuition free policy. An advantage as compared with a tuition exemption system is that much greater assistance could be given to potential students from the low income families from which such a small percentage now attend. A disadvantage is presumably a greater cost of administration since here tuition receipts would continue to be collected and scholarship funds would necessarily be disbursed. To refer once again to the President's proposed "Higher Education Act of 1965", the basis upon which scholarship funds would be apportioned to the states is not dependent upon the amount of tuition charged. Therefore, a tuition policy would, in effect, divert federal scholarship funds from student support to State support since the presently estimated $5.7 million allocation would necessarily cover the tuition charges to needy students as well as their subsistence and other expenses.

3. Institution of a deferred tuition program. This might be so structured as to base repayment upon future earnings levels and/or "forgive" repayment when the graduate enters certain occupations.[5]
4. Institute a massive State loan program at low interest rates.

The deferred tuition program basically is a loan program. In either case, without some recognition of future variations in earning ability, those from low income levels will continue to be deterred from acquiring a college education—although less so than for outright tuition payments—and those who do enroll will be persuaded to choose a course of study that promises the greatest monetary return. Also, a large administrative cost will be necessitated which will be compounded if repayments are to vary according to future earnings levels. An example of a deferred tuition program is Assembly Bill 600 which currently is under interim study by the State Legislature.[6] This bill is reproduced in Appendix K.

Tuition Rate Bases

Tuition fee rates can be based upon a variety of concepts as suggested below:

National Pattern. Table G in Section II reports the national pattern of student fees at public institutions of higher education during 1963–64. Assuming adoption of a tuition policy, the combined tuition-incidental fee rate at the University could be pegged at the national median for public universities, the Junior College rate at the national median for junior colleges and the State College combined tuition-materials and service fee rate at a national median representing some combination of averages for liberal arts colleges, teachers colleges and technological colleges. Of course, lower or upper quartile averages could also be used.

Cost of Instruction. Under the Master Plan, nonresident tuition fees have been set at the cost of teaching. A similar basis could be used for setting resident tuition rates. Conceivably, differential rates could be set for various broad disciplines as is already true for the medical and dental schools at the University. Differentials also could be set for levels of instruction: lower division, upper division, graduate. Problems inherent in establishing differential rates, however, are, (1) the greater difficulty in computing and annually up-dating the cost of instruction by discipline or by level and (2) the danger of accentuating tendencies of students to emphasize cost and future earnings prospects in their selection of a course of study. For example, nursing is a relatively high cost curriculum but has relatively low future earnings prospects.

Future Earnings Prospects. If the desire for a tuition policy is in large measure due to one's emphasis upon the future earnings prospects of the college graduate, it would appear desirable to establish differential rates to recognize the fact of differing earnings. Unfortunately, it is impossible to effectively forecast the earnings potential of the staggering array of occupations which make up the modern economy.

Revenue Desired. Another, more pragmatic, method of setting tuition fees could be in terms of revenue desired, statewide or system-wide. Such revenue may be that required to fund a particular educational activity or a percentage of the cost for such programs.

Alternative Uses of Tuition

In suggesting alternative uses of tuition receipts, it is stipulated that all such uses are legitimate responsibilities of the State's tax resources and that their financing by tuition should be considered only on the assumption that State financing is extremely unlikely.

Student Aid. Assuming the adoption of a tuition policy, it is evident that any effort to continue to make a college education available on as large a scale as before must involve a massive amount of student aid. As indicated above, various ways of programming such aid are possible. For example, a system of tuition exemptions would merely reduce the amount of tuition receipts. Also, it is expected that the Cali-

[5] For example, the NDEA program provides for 50% forgiveness for graduates who teach for at least five years.
[6] Introduced by Assemblymen Collier, Cusanovich, Dannemeyer, Conrad, Ashcraft, Badham, Barnes, and Dills.

fornia State Scholarship Commission shortly will recommend a long range broad expansion in student aid in addition to the program augmentations proposed for inclusion in the 1965–66 budget as supported by the Council.

Faculty Salaries. A continual, pressing problem is that of boosting faculty salaries to those levels necessary to ensure quality education in California public higher education. The Council has consistently recommended faculty salary parity with selected groups of institutions for both the University and the State Colleges as the proper basis for keeping pace with salary trends, but past failure to finance such increases has seriously endangered the objective of attaining and maintaining excellence. To the extent that many faculty were recruited in times of more competitive compensation schedules, they are now bearing a substantial share of the cost of educating California's youth by virtue of the increasing lag in conforming to the upward trend. Serious consideration seems appropriate for transferring the cost now borne by the faculty to the students by using tuition receipts to bring faculty salary schedules into parity with the institutional groups recommended by the Council. Hopefully, such a commitment would continue to be honored in future years, as well.

Capital Outlay. Prior to the passage of the most recent capital outlay bond issue of the State, it was stated that bond financing would not be sought in the future if at all possible and that future capital outlay needs would be financed on a pay-as-you-go basis. Since capital needs undoubtedly will continue for many years to come, partial financing by tuition receipts may become necessary.

Junior College Operating Support. Under the Master Plan recommendation that potential lower division students at the University and the State Colleges be diverted to the Junior Colleges, the Council annually has recommended a substantial increase in the proportion of Junior College operating costs to be carried by the State. Since these recommendations have met with little success to date, it may be necessary to consider financing the additional amounts required through imposition of a tuition fee.

Master Plan Expenditure Programs. Among the Master Plan recommendations were certain program proposals which still remain largely unfinanced to this date. They include faculty research and joint doctoral programs for the State Colleges. Even the library expansion programs at the State Colleges and the University and such program improvements in the State Colleges as sabbatical leave, out-of-state travel, faculty recruitment and moving expenses and graduate programs may be considered as implicit in various Master Plan recommendations. Again due to past State reluctance to support such program requests, it may be necessary to consider financing these needs through tuition receipts.

General State Government. Implicit in all of the foregoing suggestions is the assumption that any use of revenue derived from the imposition of a tuition fee will be acquiesced in by the Governor and the Legislature. Notwithstanding the authority of the University Board of Regents to restrict non-state funds to its own uses, the Legislature does have the power to indirectly control the disposition of non-state funds for both the University and the State Colleges by reducing the State appropriation by the amount of non-state funds that it believes should be made available to meet operating expenditures formerly financed by the State. Thus, the Governor and the Legislature could fail to acquiesce in any of the suggested uses of tuition receipts above and determine that the State revenue situation is sufficiently critical to justify "taxing" the students for General Fund revenue by indirectly forcing the imposition of a tuition fee for general governmental purposes, only. Obviously, gubernatorial and legislative support will be necessary to implement any recommendation.

Tuition Revenue Model

In Table S, Section V, a computation was presented of revenue estimated to be derived from an across-the-board $100 tuition fee in all three public segments. The total estimate was $38.2 million. In order to assess the impact on revenue of adopting a more restrictive tuition policy, the following model was prepared reflecting essentially the first policy variation under a tuition fee system. The total estimate in this computation is $11.8 million.

TABLE U

Revenue from a $100 Tuition Fee Under Restricted Conditions

Assuming the following:

1. No fee assessed Junior College students.
2. Full fee assessed all lower-division students at the University and the State Colleges.
3. Exemption of fee at upper division and graduate levels at the University and the State Colleges for those students whose parents are unable to finance the costs.

Full-time Enrollment	*UC*	*CSC's*
Lower Division	24,200	40,300
Less: Non-residents	—4,500	—2,500
Residents	19,700	37,800
Less 2% Leakage	—400	—800
	19,300	37,000
× $100 Tuition Fee	$1.9 million	$3.7 million
Upper & Graduate Divisions	47,300	52,300
Less: Non-residents	—8,500	—3,000
Residents	38,800	49,300
Less: Children of Low Income families	—9,800	—16,300
	29,000	33,000
× $100 Tuition Fee	$2.9 million	$3.3 million
Total Revenue	$4.8 million + $7.0 million = $11.8 million	

SUMMARY

The philosophy underlying the founding of the University of California and the persistence of tuition free or low cost education in all public segments is (1) to make higher education democratically accessible and (2) to provide trained manpower for the State's economy. Recent findings of a study of the California State Scholarship Commission disclose that tuition free education in California has not fully accomplished the intent of that philosophy, for California's record in inducing high school graduates to secure a college degree is below the national average. Other data indicate that financial need is a critical influence in the decision not to go to college for a substantial number of the non-college-going students in California.

The alternatives to the present pattern of financing public higher education in the light of these philosophical objectives may be summarized as follows:

1. Continuation of the tuition free policy, but:
   a. Exempt students from inadequate income families from the present student fee system, and/or,
   b. Augment substantially the present State Scholarship program both in numbers of students served and in the types of costs covered such as room and board, and/or
   c. Revise the present tax structure to recapture much more rapidly any higher earnings resulting from a college education.
2. Institution of a system of tuition fees, but:
   a. Continue the tuition free policy for the Junior College segment and institute tuition in the two public four-year segments with a system of tuition exemptions at the upper division and graduate levels for children of inadequate income families, regardless of scholarship, and/or
   b. Augment substantially the present State Scholarship program both in numbers of students served and in the types of costs covered such as room and board, and/or,
   c. Institute a deferred tuition program so structured as to base repayment upon future earnings levels and/or "forgive" repayment when the graduate enters certain occupations, and/or,
   d. Institute a massive State loan program at low interest rates.

Tuition rates can be based upon a variety of concepts including (1) the national pattern of student fee rates, (2) the cost of instruction, (3) future earnings prospects and (4) the amount of revenue desired to meet some specific purpose.

Alternative uses of tuition revenues include, (1) student aid programs such as scholarships and loans, (2) raising faculty salary levels to parity with selected groups of institutions for each public segment, (3) capital outlay, (4) Junior College operating support, (5) expenditure programs recommended by the Master Plan and not adequately financed to date and (6) support of general State government.

APPENDIX A

Summary of Basic Cost Data of Theodore W. Schultz [1]

Earnings foregone by students were exceedingly important. In 1900 and 1910 these earnings were about one-half of all costs, rising to 63% in 1920 and then falling to 49% in 1930 and 1940. With inflation and full employment, they then rose to 60 and 59% in 1950 and 1956.

After computing earnings foregone for high school and college and university students as shown in Table 1, Professor Schultz included this information in computing the total costs of education for each of the categories of (1) elementary schools, (2) high schools and (3) colleges and universities as exemplified in Table 2 for the latter category. The following results are extracted from one of his tables:

TABLE 1

Annual Earnings Foregone While Attending High School and College and University, Adjusted and Not Adjusted for Unemployment, 1900 to 1956, in Current Prices

Year	Average weekly earnings all manufacturing (dollars)	Annual earnings foregone per student while attending: High School		College and University	
		Unadjusted (dollars)	Adjusted for unemployment (dollars)	Unadjusted (dollars)	Adjusted for unemployment (dollars)
(1)	(2)	(3)	(4)	(5)	(6)
1900	8.37	92	84	209	192
1910	10.74	118	113	269	259
1920	26.12	287	275	653	626
1930	23.25	256	224	581	509
1940	25.20	277	236	630	537
1950	59.33	653	626	1,483	1,422
1956	80.13	881	855	2,003	1,943

SOURCES:

Column 2: Economic Report of the President, January, 1957, Table E-25, and U.S. Department of Labor; and Historical Statistics of the U.S., 1789-1945, a supplement to Statistical Abstract of the U.S., 1949, Series D 134-144.

Column 3: For High School students, Column 1 multiplied by 11.

Column 5: For College and University students, Column 1 multiplied by 25.

Columns 4 and 6: The percent unemployed is based on Clarence D. Long, *The Labor Force Under Changing Income and Employment*, a N.B.E.R. study (Princeton Univ. Press 1958), Appendix C. Table C-1 and for 1956 Table C-2 (A full discussion of the source of these estimates and their limitations appears in Schultz' study "Capital Formation by Education", *Journal of Political Economy*, December 1960).

TABLE 3

Total Cost of Elementary, High School, and College Education in United States (in millions of dollars)

	1900	1956
Elementary	$230	$7,860
High School	80	10,950
College	90	9,900
Total	$400	$28,700

Schultz also priced the cost of each year of schooling in 1956 price levels by dividing the total annual cost of education for each level of education by the number of students enrolled in that level (e.g., $9.9 billion divided by 2,996,000 students in Table 2, above,

[1] This summarizes the step-by-step approach used by Schultz in his pioneering effort to measure the economic benefits of education in "Education and Economic Growth" in the *National Society for the Study of Education 60th Yearbook*, Nelson B. Henry, ed., part 2 *Social Forces Influencing American Education, 1961.*

TABLE 2

Earnings Foregone and Other Resource Cost Represented by College and University Education, in the U.S., 1900 to 1956, in Current Prices

Year	Number of students (thousands)	Earnings foregone per student (dollars)	Total earnings foregone (millions of dollars)	School costs (millions of dollars)	Additional expenditures (millions of dollars)	Total (millions of dollars)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1900	2[illegible]	192	46	40	4	90
1910	3[illegible]	259	92	81	9	182
1920	598	626	374	184	37	595
1930	1,101	509	560	535	56	1,151
1940	1,494	537	802	742	80	1,624
1950	2,659	1,422	3,781	2,128	378	6,287
1956	2,996	1,943	5,821	3,500	582	9,903

SOURCES:

Column 2: Statistical Abstract of the U.S., 1955, Table 145; and the Biennial Survey of Education in the U.S., 1954-56, Chap. ii, Table 44.
Column 3: From Table 1, Col. (6).
Column 4: Col. (2) multiplied by Col. (3).
Column 5: From Table B in the appendix to Schultz, Chapter 1, Col. (7).
Column 6: Expenditures for books, supplies, extra clothes, and travel to and from school estimated at [illegible] percent of earnings foregone; thus 10 percent of Col. (4).
Column 7: Columns (4) + (5) + (6).

equals $3,300 which is the price tag of a year of college in 1956). The three levels are as follows:

TABLE 4

1956 Price Tags for a Year of Schooling

Elementary	$280
High School	1,420
College	3,300

Table 5

Cost of Education per Member of the Labor Force 18–64 Years of Age, in 1957, According to Years of Schooling Completed *

Type of schooling	Years of schooling per member, 1957	Cost of schooling per year 1956 prices	Total cost per member†	
			Amount	Percent
Elementary	7.52	$280	$2,106	28
High School	2.44	1,420	3,458	45
College	0.64	3,300	2,099	27
Total	10.60	‡$723	$7,663	100

*Based on Table 138 of the *Statistical Abstract of the United States 1959* (U.S. Department of Commerce, Bureau of the Census), which gives the percentage distribution by years of schooling completed for the labor force 18 to 64 years old, 1957.
†Each amount is the product of the corresponding items in Cols. 2 and 3.
‡Average cost per member per year, obtained by dividing $7,663 by 10.60.

Schultz applied the technique used in Table 5 above to the years 1900 and 1940 and then estimated additional decennial years by interpolation to develop the following tabular information.

Between 1929 and 1957, the real income of the U.S. doubled from $150 to $302 billion in 1956 prices. 75% [2] of this is attributed to human effort in both years and represents an increase from $112.5 to $226.5 billion. The labor force in 1929 consisted of 49.2 million persons with an earned income of $2,287 per member. If the earnings were held constant, the labor force in 1956 of 68 million would have earned $155.5 billion. Labor, however, earned $226.5 billion, or $71 billion more than if earning power were held constant.

Schultz has applied the results of the prior tabular materials to measuring how much of the increase in national income is attributable to the expanded investment in education. The total stock of education carried by the labor force in 1930 was $180 billion in 1956 prices. The labor force increased by 38% from 1930 to 1956. To keep the stock of education per laborer constant at its 1929 level, it would have required $69 billion more, increasing it to $249 billion. The total stock of education, however, rose by $355 billion in 1956 prices, representing a $286 billion increase beyond the $69 billion required to keep the per laborer stock constant. The following table reflects Schultz' measurement of the effect of the growth in the stock of education upon the growth in national income.

[2] Thus 25% of national income is attributed here to nonhuman wealth, $37.5 billion in 1929 and $75.5 billion in 1957. Here, too, there is a substantial "unexplained" increase, if the rate of return to capital in 1929 were to have prevailed in 1957. The stock or reproducible wealth (nonhuman) was $735 and $1,270 billions for these two dates, in 1956 prices. Adding to these the stock of land, valued at $248 billion in 1957, the total national nonhuman wealth becomes $983 and $1,518 billions for these two years. A return of $37.5 billion on a stock of $933 billion in 1929 implies a rate of return of 3.8%. Applying this rate to the 1957 stock of $1,518 billion, a growth of $57.7 billion is obtained thus leaving $17.8 billion "unexplained" (75.5 − 57.7 = 17.8). If the $17.8 billion is now added to the $71 billion for labor, the "unexplained" total becomes $88.8 billion.

TABLE 6

Stock of Education Measured by Costs and Stock of Producible Nonhuman Wealth, United States, 1900–57 *

Year	Labor force			Cost of an equivalent year of schooling (1956 prices in dollars)	Cost of educational stock, labor force members 14 years and older (in billions)	Stock of reproducible nonhuman wealth (in billions)	Percentage column 6 is of column 7
	Number (millions)	Equivalent 1940 years of schooling completed per person	Total equivalent 1940 years of schooling completed (millions)				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1900	28.1	4.14	116	$540	$63	$282	22
1910	35.8	4.65	167	563	94	403	23
1920	41.4	5.25	217	586	127	526	24
1930	48.7	6.01	293	614	180	735	24
1940	52.8	7.24	382	650	248	756	33
1950	60.1	8.65	520	690	359	969	37
1957	70.8	10.45	740	723	535	1270	42
Index 1957 (1900 = 100)				134	849	450	191

* From the worksheets for a study by Clarence D. Long, *The Labor Force Under Changing Income and Employment*, National Bureau of Economic Research, 1958. Schultz has adjusted the figures on school years completed to compare with the 1940 experience of an average of 152 days of school attendance. Column 7 is derived from the work of Raymond W. Goldsmith, who made available his estimates of U.S. (national) reproducible wealth at 1947–49 prices, which were then adjusted to 1956 prices.

TABLE 7

Estimates of the Contribution of Education in the Labor Force to Earnings and to National Income, Between 1929 and 1956, in the U.S.

Three estimates	Rate of return	Stock of education added (in billions of dollars)		Income attributable to added stock (in billions of dollars)			Proportion of "unexplained increase in national income" (in billions of dollars)	
		For labor growth	For increase in level	Column 2 × column 3	Column 2 × column 4	Total	Of the $71 billion increase in earnings of labor (Column 6 ÷ 71 × 100) (percent)	Of the $88.8 billion increase in returns of capital and labor (Column 6 ÷ 88.8 × 100) (percent)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	*9	69	286	6.2	25.7	31.9	36	29
2	†11	69	286	7.6	31.5	39.1	44	36
3	‡17.3	69	286	11.9	49.5	61.4	70	56

* For this set, Schultz took the estimate reported by Gary S. Becker in "Underinvestment in Education-", *American Economic Review*, May, 1960, which is for college education of white urban males adjusted for ability, employment, and mortality, for 1940 and 1950.
† This is Schultz' own estimate of the return to college education in 1958.
‡ In this estimate, Schultz gave weights to each level of education and applied different rates of return as follows:

1957	Weights in educational stock	Rate of return (percent)	Total (2 × 3)
Elementary	0.28	35	9.80
High School	0.45	10	4.50
College	0.27	11	2.97
Total	1.00		17.27

This estimate of returns is high relative to the other two because of the very large contribution attributed to the investment in elementary education as seems to be the case from the ratios of additional lifetime earnings over costs of elementary education indicated in another set of Schultz' computations. He took the lowest of the ratios, that for 1939. The high school and college estimates are 1959 earnings ratios.

APPENDIX B

TABLE 1

Distribution of Labor Force by Major Occupational Group

	United States* (in millions)				California†	
	1950	1960	1970	1975	1950	1960
Professional, technical and kindred workers	4.5	7.5	10.7	12.4	.435	.833
Other white collar						
Managers, officials, and proprietors, except farm	6.4	7.1	8.6	9.4	.446	.581
Clerical and kindred workers	7.6	9.8	12.8	14.2	.560	.993
Sales workers	3.8	4.4	5.4	5.9	.335	.474
Blue collar						
Craftsmen, foremen and kindred workers	7.7	8.6	10.3	11.2	.600	.847
Operative and kindred workers	12.1	12.0	13.6	14.2	.606	.904
Laborers except farm and mine	3.5	3.7	3.7	3.7	.222	.260
Service workers	6.5	8.3	11.1	12.5	.432	.634
Farmers, farm managers, laborers and foremen	7.4	5.4	4.2	3.9	.266	.235
Total	59.6	66.7	80.5	87.6	3.902	5.761

* SOURCE: *Manpower Report on the President and A Report on Manpower Requirements, Resources, Utilization and Training*, by U.S. Dept. of Labor, U.S. Govt. Printing Office, March 1963.
† SOURCE: *Report 400W No. 9*, State of California Dept. of Employment, Office of Research and Statistics, Oct. 6, 1964.

TABLE 2

Percentage Distribution of Labor Force by Major Occupational Group

	United States (percent)				California (percent)	
	1950	1960	1970	1975	1950	1960
Professional and technical	7.6	11.2	13.3	14.2	11.1	14.5
Other white collar						
Proprietary and managerial	10.7	10.6	10.7	10.8	11.4	10.1
Clerical	12.8	14.7	15.9	16.2	14.4	17.2
Sales	6.4	6.6	6.7	6.7	8.6	8.2
Blue collar						
Skilled	12.9	12.9	12.8	12.8	15.4	14.7
Semi-skilled	20.3	18.0	16.9	16.2	15.5	15.7
Unskilled	5.9	5.5	4.6	4.2	5.7	4.5
Service	10.9	12.4	13.8	14.3	11.1	11.0
Farm	12.4	8.1	5.2	4.5	6.8	4.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

APPENDIX C

Table 1

Distribution of Income for People With Different Levels of Schooling, 1959 (percentage with given income)

Level completed	Number	No income	Less than $1,000	$1,000-1,999	$2,000-2,999	$3,000-3,999	$4,000-4,999	$5,000-5,999	$6,000-6,999	$7,000-9,999	$10,000 and over
Total males											
Elementary											
8 years	601,346	3.9	7.9	13.3	10.0	10.8	12.8	14.5	5.8	11.7	4.4
High school											
1-3 years	854,104	----------	2.7	4.5	6.7	9.7	13.1	16.8	14.7	17.9	6.6
4 years	1,058,209	2.0	3.0	4.7	5.3	7.7	11.3	16.4	16.5	23.0	10.2
College											
1-3 years	585,299	1.8	3.2	5.2	5.2	6.6	9.5	13.5	14.6	24.1	16.3
4 or more years	534,205	1.7	2.3	4.0	3.8	4.6	6.0	8.7	10.4	25.5	33.0
Total females											
Elementary											
8 years	610,935	39.0	24.0	17.6	8.3	5.5	3.2	1.2	0.5	0.5	0.3
High school											
1-3 years	933,938	41.9	18.3	12.9	9.5	7.9	5.4	2.2	0.7	0.6	0.4
4 years	1,451,697	43.4	14.4	9.5	7.9	9.6	8.4	3.8	1.4	1.0	0.6
College											
1-3 years	600,655	38.9	14.8	9.7	7.6	9.2	9.4	5.2	2.2	1.8	1.2
4 or more years	338,463	29.7	12.9	7.8	6.3	6.9	8.2	9.7	7.1	8.4	3.1

SOURCE: 1960 Census data as reported in: Edward Sanders and Hans Palmer, *The Financial Barrier to College Attendance in California*, p. 120.

APPENDIX D

Basic Data of Morgan and David[1]

TABLE 1

Hourly Earnings, Actual and Standardized, by Age and Education

Age and education	Average hourly earnings		Net effect of belonging to an age-education group*	Number of cases
	Actual	As deviations from avg. of $2.29		
12 grades:				
Under 25	$1.70	$0.59	$0.42	72
25–34	2.21	.08	.16	97
35–44	2.68	.39	.33	129
45–54	2.60	.31	.27	78
55–64	2.53	.24	.09	32
College graduates:				
18–34	2.87	.58	.07	98
35–44	3.77	1.48	.85	82
45–54	4.13	1.84	1.27	53
55 and older	3.25	.96	.43	53

*Adjusted for simultaneous effects of other factors.

[1] "Education and Income", *The Quarterly Journal of Economics*, August, 1963. pp. 423-37.

TABLE 3

Value at Age Fifteen of Expected Future Earnings, Discounted at 4 Per Cent Assuming 2000 Hours of Work Per Year to Age Sixty-Five

(for all white, male, nonfarmer, heads of spending units)

Amount of education completed	At age fifteen	
	Using unadjusted earning rates	Earning rates adjusted for other factors*
0– 8 grades	$86,600	$96,000
9–11 grades	91,100	96,950
12 grades	91,100	90,300
12 grades and nonacademic training	92,400	86,900
College, no degree	92,850	91,100
College, bachelor's degree	108,150	100,450
College, advanced degree	111,000	101,700

* Earning rate if the group were average in every other respect, that is as to religion, personality, father's education, local labor market conditions, past mobility, and supervisory responsibility.

TABLE 2

Hourly Earnings, Actual and Adjusted by Age and Education * (for all white, male, non-farmer heads of spending units)

Education		Age					
		18–24	24–34	35–44	45–54	55–64	65–74
1–8 grades	actual	$1.70	$2.12	$2.23	$2.26	$2.21	$1.74
	adjusted	1.85	2.26	2.58	2.59	2.61	2.04
9–11 grades	actual	1.96	2.38	2.55	2.58	2.53	2.06
	adjusted	2.10	2.51	2.71	2.72	2.74	2.17
12 grades and nonacademic training	actual	2.19	2.61	3.00	3.03	2.98	2.51
	adjusted	2.02	2.43	2.85	2.86	2.88	2.31
College, no degree	actual	2.30	2.72	3.12	3.15	3.10	2.64
	adjusted	2.32	2.73	2.99	3.00	3.02	2.45
College, bachelor's degree	actual	2.71	3.13	3.90	3.93	3.88	3.41
	adjusted	2.46	2.87	3.66	3.67	3.69	3.12
College, advanced degree	actual	†3.20	†3.62	4.47	4.50	4.45	3.98
	adjusted	†2.71	†3.12	4.23	4.24	4.26	3.69

*Adjusted rates allow for the net effects of age and education "holding constant" all the other factors. The table discounts future earnings at 4 percent back to age 15, *assuming no earnings while in school*. Earnings foregone from age 15 through college are estimated to amount to $20,000.

† Unreliable, too few cases.

With respect to the projections of lifetime income in Table 3, Morgan and David commented as follows:

> If we ignore the period from fifteen to twenty-five years of age, the differences between a high school education and a college degree jump from $17,050 to $33,300 unadjusted, and from $10,150 to $25,500 adjusted. . . The *undiscounted* differences between high school degree and college degree are over $60,620 for the unadjusted earnings estimates, and $54,680 using the earnings estimates adjusted for the effects of other factors (pp. 434–35).

Their comment on the discount rate is also pertinent:

> One could argue for a lower rate of discount in estimating value to the individual on the grounds that safe investments for the average man do not yield well. One could argue for a higher rate on the grounds that alternative social or private investments yield more, though such yield estimates are frequently tenuous. (p. 435)

APPENDIX E

State Costs and Revenue Projections Comparison of Three Projections

TABLE 1

Projections of Master Plan Survey Team—1960

Year	State operating expenditures* (in millions)		Total state expenditures from state general fund (in millions)	State general fund revenue (in millions)
	UC-CSC	Junior colleges		
1964–65	$248	$56	$2,027	$1,962
1969–70	354	84	2,742	2,625
1974–75	471	120	3,623	3,536

SOURCE: *A Master Plan for Higher Education in California 1960–75* January, 1960.

TABLE 2

Projections of Griffenhagen-Kroeger, Inc.—1963

Year	State operating expenditures* (in millions)		Total state expenditures from state general fund (in millions)	State general fund revenue (in millions)
	UC-CSC	Junior colleges		
1965–66	$308	$67	$2,381	$2,094
1970–71	507	105	3,286	2,671
1975–76	728	145	4,314	3,380

SOURCE: *California's Ability to Finance Higher Education*, February, 1963.

TABLE 3

Projections of Joint Legislative Budget Committee—1964

Year	State operating expenditures* (in millions)		Total state expenditures from state general fund (in millions)	State general fund revenue (in millions)
	UC-CSC	Junior colleges		
1965–66	$312	not identified	$2,494	$2,249
1970–71	435	not identified	3,734	2,936
1973–74	508	not identified	4,654	3,489

SOURCE: *A Projection of State Revenue and Expenditure for California Fiscal Years 1964–65 to 1973–74*, (mimeo), May, 1964.

* Basic assumptions are that (1) U.C. and C.S.C. will divert students and that (2) State will finance 45 percent of J.C. costs by 1975 under Master Plan.

APPENDIX F

Local Costs of Public Junior Colleges Versus Ability to Pay

TABLE 1

Actual and Projected Current Expenditures of Education for Public Junior Colleges—1961–62 to 1975–76

Fiscal year	Average daily attendance a.d.a. (in thousands)		Current expense of education (actual) (in millions)	Current expense of education per a.d.a.				Projected current expense based upon a projected increase in current expense per a.d.a.		
					Projected†					
	Actual	Projected*		Actual	2 percent increase per year	3 percent increase per year	4 percent increase per year	2 percent increase (Col. 3 × Col. 6) (in million)	3 percent increase (Col. 3 × Col. 7) (in million)	4 percent increase (Col. 3 × Col. 8) (in million)
1961–62	202		$112.6	$558.36						
1962–63	215		125.2	581.82						
1963–64	246		141.1	573.65						
1964–65		294			$585.12	$590.86	$596.60	$172.3	$173.9	$175.6
1965–66		338			596.82	608.58	620.46	201.9	205.9	209.9
1966–67		369			608.76	626.84	645.28	224.7	231.4	238.2
1967–68		391			620.94	645.64	671.09	242.8	252.4	262.4
1968–69		403			633.36	665.00	697.93	255.3	268.1	281.3
1969–70		423			646.03	684.95	725.85	273.3	289.7	307.0
1970–71		450			658.95	705.50	754.88	296.4	317.3	339.5
1971–72		476			672.13	726.67	785.08	320.0	345.9	373.7
1972–73		502			685.57	748.47	816.48	343.8	375.4	409.5
1973–74		518			699.28	770.92	849.14	361.9	399.0	439.4
1974–75		544			713.26	794.05	882.06	388.0	431.9	479.8
1975–76		570			727.52	817.87	917.34	414.5	466.0	522.7

* SOURCE: State Department of Finance. The estimates reflect the planned diversion of potential lower division students at the University of California and the California State College until the ratio of lower division enrollment to upper division enrollment reaches 40 percent: 60 percent in 1975.

† The 3 percent rate is that actually experienced by separate junior college districts in the period 1945–55 to date. The 2 percent and 4 percent rates are applied as minimum and maximum growth rates.

TABLE 2

Actual and Projected State and Local Shares of the Current Expenditure of Education for Public Junior Colleges, 1961–62 to 1975–76

Fiscal year	Current expense of education				State share							Local share						
		Based upon a projected increase in expense/a.d.a. (in millions)			Actual (in millions)		Projected (in millions)					Actual (in millions)		Projected (in millions)				
	Actual (in millions)	Based on 2 percent increase	Based on 3 percent increase	Based on 4 percent increase	Amount	Percent	Percent*	Based on 2 percent increase	Based on 3 percent increase	Based on 4 percent increase		Amount	Percent	Percent	Based on 2 percent increase	Based on 3 percent increase	Based on 4 percent increase	
1961–62	$112.6				$30.9	27.49						$81.6	72.51					
1962–63	125.2				34.1	27.25						91.0	72.75					
1963–64	141.1				41.3	29.30						99.8	70.72					
1964–65		$172.3	$173.9	$175.6			†X	$53.2	$53.2	$53.2				†X	$119.0	$120.7	$122.4	
1965–66		201.9	205.9	209.9			36	72.7	74.1	75.6				64	129.2	131.8	134.3	
1966–67		224.7	231.4	238.2			37	83.1	85.6	88.1				63	141.6	145.8	150.0	
1967–68		242.8	252.4	262.4			38	92.2	95.9	99.7				62	150.5	156.5	162.7	
1968–69		255.3	268.1	281.3			39	99.6	104.5	109.7				61	155.7	163.5	171.6	
1969–70		273.3	289.7	307.0			40	109.3	115.9	122.8				60	164.0	173.8	184.2	
1970–71		296.4	317.3	339.5			41	121.5	130.1	139.2				59	174.9	187.2	200.3	
1971–72		320.0	345.9	373.7			42	134.4	145.3	157.0				58	185.6	200.6	216.8	
1972–73		343.8	375.4	409.5			43	147.8	161.4	176.1				57	196.0	214.0	233.4	
1973–74		361.9	399.0	439.4			44	159.2	175.5	193.4				56	202.7	223.4	246.1	
1974–75		388.0	431.9	479.8			45	174.6	194.4	215.9				55	213.4	237.6	263.9	
1975–76		414.5	466.0	522.7			45	186.5	209.7	235.2				55	228.0	256.3	287.5	

* State percentage increased each year so as to reach 45 percent (as recommended in Master Plan) by 1974–75.

† The Department of Education's Bureau of School Apportionment estimated the apportionment in 1964–65, based upon the $600 Foundation Program and the 1963–64 a.d.a., would be $44.4 million. If this is reduced to an amount per a.d.a. ($180,696) and this is multiplied by the a.d.a. estimated for 1964–65, the estimated state support in 1964–65 = $53.2 million. This would provide 30.88 percent support towards the 2 percent increase in cost, 30.58 percent toward the 3 percent increase in cost and 30.29 percent toward the 4 percent increase in cost.

TABLE 3

Statewide Property Tax Rate Required to Fund Local Share of Actual and Projected Current Expenditure of Education for Public Junior Colleges 1961–62 to 1975–76

Fiscal year	Local share						Assessed valuation*			Tax rate (cents/$100) required				
	Actual		Projected				Actual		Projected (in millions)	Actual		Projected statewide		
	Amount	Percent	Percent	Based on 2 percent increase	Based on 3 percent increase	Based on 4 percent increase	All district operations A.J.C.	Statewide	Statewide	All district operations A.J.C.	Statewide	To meet 2 percent increase	To meet 3 percent increase	To meet 4 percent increase
1961–62	$81.6	72.51	--------	--------	--------	--------	$23.8	$31.5	--------	34.37	25.88	--------	--------	--------
1962–63	91.0	72.75	--------	--------	--------	--------	26.1	33.3	--------	34.84	27.32	--------	--------	--------
1963–64	99.8	70.72	--------	--------	--------	--------	28.4	35.0	--------	35.18	28.48	--------	--------	--------
1964–65	--------	--------	X*	$119.0	$120.7	$122.4	--------	--------	$36.8	--------	--------	30.69	31.13	31.57
1965–66	--------	--------	64	129.2	131.8	134.3	--------	--------	41.9	--------	--------	30.82	31.43	32.04
1966–67	--------	--------	63	141.6	145.8	150.0	--------	--------	45.2	--------	--------	31.28	32.21	33.16
1967–68	--------	--------	62	150.5	156.5	162.7	--------	--------	48.6	--------	--------	30.94	32.73	33.44
1968–69	--------	--------	61	155.7	163.5	171.6	--------	--------	52.3	--------	--------	29.80	31.28	32.83
1969–70	--------	--------	60	164.0	173.8	184.2	--------	--------	56.2	--------	--------	29.20	30.96	32.81
1970–71	--------	--------	59	174.9	187.2	200.3	--------	--------	60.2	--------	--------	29.05	31.10	33.28
1971–72	--------	--------	58	185.6	200.6	216.8	--------	--------	64.6	--------	--------	28.73	31.06	33.56
1972–73	--------	--------	57	196.0	214.0	233.4	--------	--------	69.1	--------	--------	28.35	30.95	33.76
1973–74	--------	--------	56	202.7	223.4	246.1	--------	--------	74.9	--------	--------	27.07	29.84	32.87
1974–75	--------	--------	55	213.4	237.6	263.9	--------	--------	80.3	--------	--------	26.59	29.60	32.88
1975–76	--------	--------	55	228.0	256.3	287.5	--------	--------	86.0	--------	--------	26.51	29.80	33.42

* SOURCE: Stanford Research Institute, Statistical Appendix to: Financing Public School Education in California, June 1963, p. 241.
The projections 1973–74 are on Council staff extrapolations.

APPENDIX G

TABLE 1

State and Local Support in Relation to Other States

	Per capita income 1961–62	Population 1961–62 (millions)	Total public IHL enrollment as a percent of total IHL* enrollment 1963	Personal income 1961–62 (billions)	State and local tax revenue 1961–62 (billions)	Tax burden index 1961–62	Educational and general income to public IHL* from state and local government 1961–62 (millions)	Public IHL* tax effort 1961–62	Public IHL tax effort index 1961–62
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Group 1									
California	$2,898	17.0	85.1	$49.2	$5.2	3.63	----------	----------	----------
Illinois	2,844	10.1	52.7	28.9	2.4	2.97	----------	----------	----------
Indiana	2,350	4.7	62.3	11.1	0.9	3.64	----------	----------	----------
Massachusetts	2,769	5.2	19.6	14.3	1.4	3.52	----------	----------	----------
Michigan	2,416	8.0	79.2	19.3	1.9	4.07	----------	----------	----------
Missouri	2,384	4.3	58.4	10.4	0.8	3.27	----------	----------	----------
New Jersey	2,887	6.2	52.2	18.0	1.5	2.86	----------	----------	----------
New York	2,930	17.4	38.0	51.0	5.4	3.62	----------	----------	----------
Ohio	2,392	10.1	57.8	24.2	2.0	3.45	----------	----------	----------
Pennsylvania	2,363	11.4	25.1	26.9	2.4	3.71	----------	----------	----------
Group 2									
California	$2,898	17.0	85.1	$49.2	$5.2	3.63	$325.4	.66	.2283
Colorado	2,370	1.9	77.6	4.5	0.5	4.50	24.6	.55	.2299
Florida	2,044	5.5	70.4	11.2	1.1	4.71	49.1	.44	.2153
Indiana	2,350	4.7	62.3	11.1	0.9	3.64	58.4	.53	.2242
Kansas	2,188	2.2	81.5	4.9	0.5	4.86	35.3	.73	.3315
Michigan	2,416	8.0	79.2	19.3	1.9	4.07	106.9	.55	.2292
Minnesota	2,236	3.5	72.4	7.8	0.9	4.99	42.1	.54	.2423
Oregon	2,333	1.9	74.6	4.3	0.4	4.10	32.2	.74	.3174
Texas	2,013	10.1	76.0	20.4	1.9	4.53	87.3	.43	.2129
Washington	2,485	3.0	75.7	7.5	0.8	4.09	56.3	.75	.3030
Wisconsin	2,283	4.1	72.5	9.3	1.0	4.59	41.7	.45	.1957

* Institutions of Higher Learning.

SOURCES: Column 1: Bureau of Census, *Compendium of State Government Finances 1963*, p. 50.
Column 2: Bureau of Census, *Compendium of State Government Finances 1962*, p. 56.
Column 3: Department of Health, Education and Welfare, Office of Education, *Residence and Migration of College Students, Fall, 1963.*
Column 4: Bureau of Census, *Compendium of State Government Finances, 1963*, p. 50.
Column 5: Departent of Commerce; Government Finances in 1962, October 1963.
Column 6: (Column 5 ÷ Column 4) × (1 ÷ Column 1) × 10^5.
Column 7: Unpublished data from Office of Education, HEW for forthcoming volume, *Financial Statistics of Institutions of Higher Education, 1961–62.*
Column 8: Column 7 ÷ Column 4.
Column 9: (Column 7 ÷ Column 4) × (1 ÷ Column 1) × 10^5.

APPENDIX H

TABLE 1

Survey Response by Type of Institution

	Number mailed	Number returned	Percent response
I. CALIFORNIA STATE COLLEGES	**1270**	**1102**	**86.8**
San Jose	234	201	85.9
San Francisco	178	156	87.6
Chico	197	174	88.3
San Diego	225	192	85.3
Long Beach	240	203	84.6
Cal Poly (SLO)	196	176	92.3
II. JUNIOR COLLEGES	**1501**	**1127**	**75.1**
San Jose City	142	103	72.5
College of San Mateo	352	251	71.3
Reedley College	157	119	75.8
Los Angeles City	124	79	63.7
San Diego City	54	45	83.3
Pasadena City	150	110	73.3
Los Angeles Pierce	169	127	75.1
Bakersfield College	147	118	80.3
Los Angeles Harbor	206	175	85.0
III. UNIVERSITY OF CALIFORNIA	**1254**	**1098**	**87.6**
Berkeley	508	448	88.2
Davis	111	103	92.8
Los Angeles	361	299	82.8
Riverside	72	68	94.4
Santa Barbara	169	149	88.2
Los Angeles Medical	9	8	88.9
San Francisco Medical	24	23	95.8
IV. PRIVATE UNIVERSITIES	**752**	**682**	**90.9**
Stanford	251	236	94.0
U. O. P.	156	143	91.7
U. S. C.	345	303	87.8
V. PRIVATE COLLEGES	**462**	**438**	**94.8**
Occidental	80	77	96.3
Whittier	91	87	95.6
Redlands	99	92	92.9
Pomona	66	66	100.0
Pepperdine	91	81	89.0
Cal Tech	35	35	100.0
VI. DENOMINATIONAL COLLEGES	**527**	**479**	**90.9**
Chapman	84	71	84.5
Pacific Union	90	82	91.1
Loyola	72	64	88.9
St. Mary's	100	92	92.0
Dominican College	105	97	92.4
San Diego College for Women	76	73	96.1
VII. FOUR-YEAR SPECIALIZED	**453**	**349**	**77.0**
Calif. Institute of Arts	123	89	72.4
Univ. of Judaism	80	58	72.5
Menlo (Bus. Adm.)	91	75	82.4
Pasadena Playhouse	27	24	88.9
Woodbury College	72	59	81.9
Art Center School	60	44	73.3
OVERALL	**6219**	**5275**	**84.8**

SOURCE: California State Scholarship Commission.

APPENDIX I

TABLE 1

Effective Tax Rate Based on Family Personal Income After Federal Income Taxes

Tax	Income bracket								
	Less than $2,000	$2,000–2,999	$3,000–3,999	$4,000–4,999	$5,000–5,999	$6,000–6,999	$7,000–9,999	$10,000–14,999	$15,000 and up
State, General Fund									
Personal Income	$0.01	$0.01	$0.14	$0.18	$0.25	$0.24	$0.33	$0.44	$2.45
Bank and Corporation	1.00	.83	.69	.52	.46	.44	.46	.51	1.41
Sales and Use	2.12	1.67	2.04	1.77	1.86	2.16	1.81	1.68	2.04
Cigarette	.39	.23	.27	.22	.22	.23	.18	.09	.14
Liquor	.12	.11	.11	.10	.15	.19	.13	.13	.15
Gift and Inheritance	.49	.35	.25	.16	.12	.09	.12	.14	.39
Horse Racing	.15	.10	.06	.07	.07	.12	.11	.10	.10
Insurance	.13	.22	.18	.20	.19	.17	.22	.14	.16
Total state	$4.41	$3.52	$3.74	$3.22	$3.32	$3.64	$3.36	$3.23	$6.84
Local									
Property	$9.21	$10.44	$9.05	$7.99	$7.42	$7.03	$6.19	$5.01	$5.63
Total, state and local	$13.62	$13.96	$12.79	$11.21	$10.74	$10.67	$9.55	$8.24	$12.47

SOURCE: Assembly Interim Committee on Revenue and Taxation, *Taxation of Property in California*, (Staff Report to the Committee) December, 1964.

APPENDIX J

Student Loan and Earning Patterns

TABLE 1

Distribution of Student Earnings

Money earned by student	Weighted totals (percent)	Junior colleges	State colleges	University of California	Private universities	Private colleges	Private colleges, denominational	Four-year specials
	100.0	62.9	18.7	8.2	2.9	1.8	3.7	1.9
Parents Answers for Dependent Students								
N/R	4.3	5.3	3.3	1	2	2	2	3
0	16.6	14.6	18.2	23	22	15	21	25
$1- 199	14.6	14.3	14.6	18	12	14	15	10
300- 399	16.1	16.2	14.1	18	15	16	19	19
400- 599	15.2	15.7	15.1	12	15	16	13	15
600- 799	9.6	8.6	11.8	10	13	13	11	7
800- 999	6.6	6.7	7.2	6	6	7	5	5
1,000-1,199	5.3	5.6	5.5	4	4	5	4	5
1,200-1,399	2.6	2.5	4.1	1	1	1	2	1
1,400-1,599	1.5	1.8	1.1	1	1	1	1	2
1,600-1,799	1.4	1.8	1.3	0	0	1	0	1
1,800 plus	5.5	7.2	4.1	0	2	3	1	2
Self-Supporting Students								
N/R	10.7	14	4	2	7	10	9	11
0	15.5	14	19	16	17	10	21	18
$1- 199	4.5	4	6	4	2	20	2	5
200- 399	5.2	4	8	9	7	0	4	4
400- 599	4.6	3	7	8	5	10	9	2
600- 799	4.7	3	6	8	17	10	7	7
800- 999	3.7	2	6	9	2	0	11	5
1,000-1,199	4.1	2	6	10	2	30	4	8
1,200-1,399	2.2	1	3	10	2	0	2	2
1,400-1,599	1.6	1	3	2	2	0	4	2
1,600-1,799	1.8	2	0	1	5	10	2	2
1,800 plus	35.0	43	25	15	27	0	19	28

SOURCE: California State Scholarship Commission.

* Means no response.

TABLE 2

Distribution of Student Loans

Amount of student loans	Weighted totals (percent)	Junior colleges	State colleges	University of California	Private universities	Private colleges	Private colleges, denominational	Four-year specials
	100.0	62.9	18.2	8.2	2.9	1.8	3.7	1.9
Parents Answers for Dependent Students								
N/R	3.1	3.3	2.1	2.9	2.7	2.8	4.4	4.1
0	90.6	93.3	88.9	87.5	81.8	72.5	75.3	84.6
$1- 199	1.0	0.9	1.3	1.4	0.3	3.0	0.9	0.5
200- 399	1.5	0.7	1.7	3.7	3.0	5.1	5.3	3.6
400- 599	1.7	0.9	3.6	1.4	3.6	5.4	3.4	1.8
600- 799	.7	0.4	.6	1.2	2.5	3.3	3.7	0
800- 999	.4	0.2	.3	0.6	1.3	2.6	2.7	0.5
1,000-1,199	.3	0	.3	0.7	1.9	3.3	3.0	2.7
1,200-1,399	.2	0	.2	0.2	1.1	0.5	0	0.9
1,400-1,599	.2	0.2	.2	0.2	0.3	0.7	0.5	0.9
1,600-1,799	.0	0	0	0	0	0.5	0.2	0
1,800 plus	.3	0.2	.1	0.4	1.4	0.5	0.5	0.5
Self-Supporting Students								
N/R	6.2	7.5	3.1	2.2	0	10	9.5	10.5
0	85.7	90.1	82.5	73.2	87.5	80	61.9	71.1
$1- 199	1.0	0.5	2.2	2.8	0	0	0	3.5
200- 399	1.7	0.5	2.5	7.3	0	0	7.1	2.6
400- 599	2.2	0.3	5.3	5.6	5.0	10	4.8	4.4
600- 799	1.2	0.5	.6	5.0	0	0	7.1	2.6
800- 999	.8	0.2	1.2	2.8	0	0	4.8	0
1,000-1,199	.4	0	1.5	0.6	2.5	0	0	0
1,200-1,399	.1	0	0	0	2.5	0	0	0.9
1,400-1,599	.2	0	.3	0	0	0	2.4	0.9
1,600-1,799	.1	0	0	0.6	0	0	0	0.9
1,800 plus	.5	0.3	.3	0	2.5	0	2.4	2.6

SOURCE: California State Scholarship Commission.

AMENDED IN ASSEMBLY MARCH 9, 1965

AMENDED IN ASSEMBLY FEBRUARY 4, 1965

CALIFORNIA LEGISLATURE—1965 REGULAR (GENERAL) SESSION

ASSEMBLY BILL No. 600

Introduced by Assemblymen Collier, Cusanovich, Dannemeyer, Conrad, Ashcraft, Badham, Barnes, and Dills

January 27, 1965

REFERRED TO COMMITTEE ON RULES

An act to add Chapter 7 (commencing with Section 22758) to Division 16.5 of the Education Code, and to add Section 17235 to the Revenue and Taxation Code, relating to ~~education~~ ~~tuition~~ REIMBURSEMENT FOR COST OF INSTRUCTION AT INSTITUTIONS OF HIGHER LEARNING.

The people of the State of California do enact as follows:

SECTION 1. Chapter 7 (commencing with Section 22758) is added to Division 16.5 of the Education Code, to read:

CHAPTER 7. LEARN, EARN AND ~~PAY~~ *REIMBURSE* PLAN

Article 1. General Provisions

22758. It is the intention of the Legislature in enacting this chapter to require students who attend the University of California or any state college to reimburse the state for a portion of the expenditures made by the state in support of such publicly supported institution of higher education. Such a program is necessary in order to enable the state to meet the educational needs of the increasing number of people who desire to take advantage of a higher education, while at the same time maintaining a high level of education. The Legislature recognizes that while the state as a whole benefits from the education received by students attending such institutions, the students are especially benefited from the education they receive. The Legislature also recognizes that many of those

who attend such institutions are unable to pay the costs of their instruction during the time of their attendance. Therefore, this chapter establishes a method whereby those persons who receive the benefits of a higher education at such institutions shall reimburse the state over an extended period of time for a portion of the funds expended in support of their education.

22759. Nothing in this chapter shall be construed so as to in any way interfere with, impede or inhibit the scholarship program of the State Scholarship Commission or any other scholarship program, whether public or private. Scholarship grants or awards may be applied, either in whole or in part, toward obligations incurred under this chapter.

Article 2. Application of Chapter

22761. Every person who is a legal resident of this state and enrolls in the University of California or any state college, at the time of admission shall pay ~~a tuition~~ *to the state the cost of instruction* for the school term in which he is enrolled equal in amount to the estimated cost of instruction for that term as determined pursuant to Article 3 (commencing with Section 22771) of this chapter; or he may defer payment of such ~~tuition~~ *cost* until such time as he graduates or otherwise ceases enrollment at such an institution, becomes gainfully employed, and attains a taxable income as specified in this chapter.

22762. An application to defer payment of ~~tuition~~ *the cost of instruction* pursuant to this chapter shall be made to the Director of Finance at the time of enrollment. The application shall contain the federal social security number of the student, and such other information as the Director of Finance may require.

22763. After application, a student may participate in the "Learn, Earn and ~~Pay~~ *Reimburse* Plan" under this chapter, if he executes a note in favor of the state in an amount equal to the estimated cost of instruction for the school term in which the student is enrolled as determined pursuant to Article 3 (commencing with Section 22771) of this chapter. The note shall incorporate the provisions of this chapter by reference, and shall constitute a part of the note. *The note shall include such provisions for payment and collection as the Director of Finance may prescribe as necessary to effectuate its payment and collection.*

22764. Notwithstanding any other provision of law, for the purposes of this chapter a person shall have capacity to sign a note and become fully obligated thereon, regardless of his age at the time of signing.

Article 3. ~~Amount of Tuition~~ *Cost of Instruction*

22771. The amount of a note executed pursuant to Section 22763 shall be determined by the Director of Finance in accordance with the provisions of this article.

22772. The amount of any such note shall be the estimated cost of instruction for the school term in which such student is enrolled.

22773. The cost of instruction shall consist of the estimated expenditures of state funds which are not otherwise reimbursed for each student, but such costs shall not include any expenditures for capital outlay, organized research or any other estimated state expenditures which the Director of Finance determines are not directly related to the instruction of students enrolled in the university or state college, as the case may be.

22774. A note executed pursuant to this chapter shall not bear interest while the student is enrolled, if his taxable income is less than four thousand dollars ($4,000) during the taxable year of enrollment. A student whose taxable income is four thousand dollars ($4,000) or more during such taxable year shall pay interest at the annual rate of six percent (6%) of the amount of the note, unless he pays the note in full.

22775. If the student graduates or otherwise ceases enrollment at the college or university, becomes gainfully employed, but whose taxable income is less than four thousand dollars ($4,000) during the taxable year, each note shall bear interest at the annual rate of four percent (4%). When such student's taxable income during a taxable year is four thousand dollars ($4,000) or more, each note shall bear interest at the annual rate of six percent (6%) of the unpaid balance.

Article 4. Payment

22781. As used in this chapter the following terms have the definitions set forth in the Personal Income Tax Law (Part 10 (commencing with Section 17001), Division 2, Revenue and Taxation Code).

(a) Taxable income, *except that in the case of a married person who is subject to this chapter, taxable income includes the taxable income which is the separate property of the person, and the taxable income which constitutes community property of the person and of the spouse of such person.*

(b) Taxable year.

22782. The principal amount of each note, and any accrued interest thereon, shall be paid in full by a series of annual progressive payments pursuant to the applicable progressive payment schedule specified in Article 5 (commencing with Section 22791) of this chapter.

22783. Payment required by this chapter shall be due on or before the 15th day of April, following the close of a taxable year. In case a taxable year is computed on the basis of a

fiscal year, the payment required by this chapter shall be due on or before the 15th day of the fourth month following the close of the fiscal year.

22784. The first payment shall be made as follows:

(a) In the case of a single person who has not more than a bachelor's degree, or has otherwise ceased enrollment without a degree, as soon as his taxable income during a taxable year is four thousand dollars ($4,000) or more, or if married five thousand dollars ($5,000) or more.

(b) In the case of a single person who has not more than a master's degree, as soon as his taxable income during a taxable year is five thousand dollars ($5,000) or more, or if married six thousand dollars ($6,000) or more.

(c) In the case of a person who has at least a doctor's degree, as soon as his taxable income during a taxable year is seven thousand dollars ($7,000) or more.

If during a taxable year, the taxable income is less than the minimum required for the first payment, no payment shall be due for that year, and no payment shall be due for any succeeding taxable year unless this section is otherwise complied with.

Each note may be paid in full, together with any accrued interest, at any time without penalty.

22785. If this chapter has been otherwise complied with, a note which has not been paid in full twenty (20) years from the date of execution shall be deemed null and void. If the note is one of a series executed under this chapter, the twenty (20) year period shall be computed from the date of the last executed note.

22786. The Director of Finance shall contract for the issuance of insurance on the life of every person who has signed a note pursuant to this chapter for a term to cover the period during which the note is unpaid in full. The state shall be the beneficiary and the amount of insurance on each life insured shall be equal to the unpaid balance of each note executed by the insured, plus any accrued interest.

22787. Notwithstanding Section 170 of the Civil Code, the community property, including earnings, of a person subject to this part and of the spouse of such person is liable for any annual reimbursement that is required to be paid under this part during the existence of such marriage.

Article 5. Progressive Payment Schedule

22791. As used in this article, "balance due" means the outstanding amount of principal and accrued interest on all notes executed by one person.

22792. In the case of a person who has not more than a bachelor's degree the amount of any payment required by this chapter shall be as follows:

Taxable income			
If the taxable income during a taxable year is:	but less than:	Percent of balance due If single	If married
$4,000	$5,000	10%	0
5,000	6,000	11%	10%
6,000	7,000	13%	11%
7,000	8,000	15%	13%
8,000	9,000	20%	15%
9,000	10,000	25%	20%
10,000	20,000	25%	25%
20,000	21,000	100%	25%
21,000 or more		100%	100%

22793. In the case of a person who has not more than a master's degree the amount of any payment required by this chapter shall be as follows:

Taxable income			
If the taxable income during a taxable year is:	but less than:	Percent of balance due If single	If married
$5,000	$6,000	8%	0
6,000	7,000	9%	8%
7,000	8,000	11%	9%
8,000	9,000	15%	11%
9,000	10,000	19%	15%
10,000	11,000	22%	19%
11,000	12,000	25%	22%
12,000	21,000	25%	25%
21,000 or more		100%	100%

22794. In the case of a person who has at least a doctor's degree, the amount of any payment required by this chapter shall be as follows:

Taxable income		
If the taxable income during a taxable year is:	but less than:	Percent of balance due
$7,000	$8,000	6%
8,000	9,000	7%
9,000	10,000	10%
10,000	11,000	12.5%
11,000	12,000	14%
12,000	13,000	16.666%
13,000	14,000	20%
14,000	30,000	25%
31,000 or more		100%

Article 6. Reports

22801. Each person who executes a note pursuant to this chapter shall on or before the date payment is due, file with the Director of Finance a form showing the amount of his taxable income for that taxable year, whether or not a tax return was required to be filed pursuant to the Personal Income Tax Law, and such other information as may be required by the Director of Finance.

Article 7. University of California ~~Student Loan~~ *Reimbursement* Fund

22811. All money received by the state ~~as payments on notes executed~~ pursuant to this chapter attributable to enrollment at the University of California shall be deposited in the University ~~Student Loan~~ *Reimbursement* Fund, which is hereby created in the State Treasury. All money deposited in the fund shall be used exclusively for the support and maintenance of the University of California.

22812. On or before July 1 of each year the State Controller shall transfer from the General Fund to the State School Fund an amount equal to the amount that is deposited in the University Reimbursement Fund during the fiscal year commencing on July 1 of the preceding year. The amount so transferred shall be in addition to any other amount, including amounts computed under Section 17301, required to be transferred to the State School Fund, and shall not be used to decrease any other amount required to be so transferred to the State School Fund.

Article 8. State College ~~Student Loan~~ *Reimbursement* Fund

22821. All money received by the state ~~as payments on notes executed~~ pursuant to this chapter attributable to enrollment at any state college shall be deposited in the State College ~~Student Loan~~ *Reimbursement* Fund which is hereby created in the State Treasury. All money deposited in the fund shall be used exclusively for the support and maintenance of state colleges in this state.

22822. On or before July 1 of each year the State Controller shall transfer from the General Fund to the State School Fund an amount equal to the amount that is deposited in the State College Reimbursement Fund during the fiscal year commencing on July 1 of the preceding year. The amount so transferred shall be in addition to any other amount, including amounts computed under Section 17301, required to be transferred to the State School Fund, and shall not be used to decrease any other amount required to be so transferred to the State School Fund.

Article 9. Administration

22831. The Director of Finance shall administer the provisions of this chapter, and shall adopt such rules and regulations as to effectuate its provisions.

SEC. 2. Section 17235 is added to the Revenue and Taxation Code, to read:

17235. In computing taxable income there shall be allowed as a deduction any amount paid to the state during the taxable year pursuant to Chapter 7 (commencing with Section 22758) of Division 16.5 of the Education Code.

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APPENDIX L

Summary of Arguments Pro and Con Concerning Tuition

Pro: Higher Student Charges

The debate on the issue of rising tuition fees goes on. Those who support higher tuition rest their case partly on the presumed unavailability of other resources to the IHL and the greater relative rise of costs than of tuition since 1940; the large material advantages obtained by the college-trained, and hence, financing by beneficiaries; the small impact of higher tuition on total costs to the student; the alternative colleges available at low costs; the possibility of improving financing methods, so that at higher tuition rates opportunities may be increased rather than reduced; the large rises of family income as compared with the small increases in tuition over the last generation; the need of adequate charges as a condition of appreciating higher education.[1]

[1] Seymour E. Harris, *Higher Education: Resources and Finance*, p. 164.

Con: Higher Student Charges

Defenders of no tuition or low tuition are equally eloquent. They stress the large social product and consider the substantial private product largely irrelevant. They are opposed to the determination of numbers or those chosen on the basis of a pricing system. In view of our expected $200 billion or more growth of GNP in ten years, the resources for a free higher education are available. All that is necessary is for the public—and particularly government and philanthropists—to sense the large social benefits to be had from higher education. These defenders of an equalitarian principle, namely, equal opportunities for all, are not optimistic concerning improved methods of finance as weapons for inducing higher tuition. They do not want two classes of citizens, the debt-ridden and the others; they fear a widespread scholarship program which may bring a vast bureaucracy, means test, and political chicanery.[2]

[2] *Ibid.*, p. 165.

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